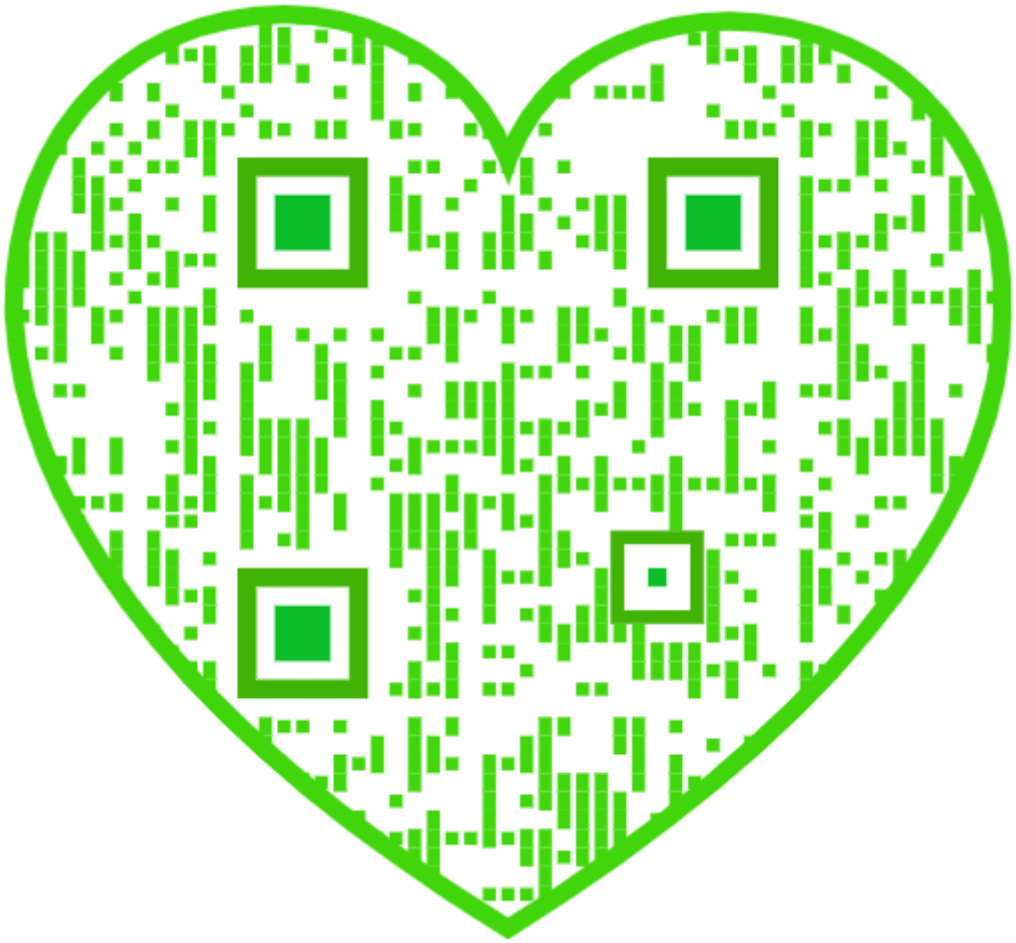

A HANDBOOK

FOR

SEWING SCHOOL

TEACHERS

THIRD EDITION.

NEW YORK
THOMAS WHITTAKER
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PREFACE FOR SECOND EDITION.

In preparing a second edition of this little book, several questions and suggestions received since its publication have been carefully considered. The time, however, has been too short to give them that thorough testing which has been given to every detail of the course as here planned, and which would alone warrant any change.

In some schools a substitute for the canvas weaving patch is now being used. It is a small piece of cardboard with two parallel rows of small holes, across from one to the other of which a warp is worked with worsted, and upon this, in contrasting color, is woven a woof. The idea of the contrasting color is excellent, and of course the cards take less time than the canvas, but only longer experience and comparison of the two methods can demonstrate whether the gain in time may not be a loss in some more important points.

In talking the matter over with some of the older girls who had just graduated from one of our schools,

their opinion was that much incidental and valuable knowledge was gained in handling the canvas, and the very difficulty of manipulating such stiff material gave them a skill and dexterity which helped them greatly in their future work.

If, however, the time saved by the use of the cardboard shall prove not to be at the expense of less tangible, but more important things, let it be substituted at once.

In a word, let us always be on the watch for better methods, and because great advances have already been made, and we have accepted the most approved methods of to-day, let us not think that to-morrow can have nothing to teach us.

On the other hand we should make no hasty or unwise changes, considering not only the abstract value of the new idea, but its fitness for the conditions under which we work.

August, 1895.

PREFACE.

THIS little Handbook is a revised and enlarged edition of written instructions, that have been in use for several years in Emmanuel Chapel Industrial School, New York City.

In response to numerous requests for copies of these directions, they have been printed.

Generous thanks are due the Directresses of various schools who have kindly given the benefit of their experience and made many valuable suggestions.

October, 1893.

INTRODUCTORY CHAPTER.

EDUCATIONAL ADVANTAGES OF SEWING.

UNDER a system which is carefully planned and properly carried out, learning to sew may be as educational a process as the pursuit of any other of the industrial arts. It then becomes a part of the mental, as well as the manual training.

No child under six years of age should begin a course of sewing, for even if her fingers are nimble enough to do the work, her mind is not mature enough to grasp the new ideas, and her judgment is not sufficiently developed. For children under six some form of kindergarten work should be provided. In many schools they work on canvas with worsted.

In the sewing course the order of the classes is important. If before the actual sewing is taught, the children are drilled in the use of the needle and the other implements of sewing, it is a great advantage in their subsequent work.

In many respects the first few classes are the most important. A very simple stitch, requiring little judgment, and only a small amount of manual skill, should first be taught. This is the time to inculcate correct habits of working. Probably there is nothing

easier than the plain running stitch, and if this is done in a pattern, it is more interesting to the child.

Even as early as this she should be trained to be self-reliant and to think for herself. For this reason there is serious objection to the use of blocked patches or anything so mechanical, as the mind and the hand should be trained together. As the child acquires command of her fingers, her mental powers may be further drawn upon, and this gradual advance should continue until she is able to manipulate the most dainty and difficult work, and is also capable of exercising judgment and ingenuity.

Nowhere is the mental training more valuable than in the preparation of the work. It should be borne in mind that it is as necessary to teach a child how to prepare her patch as how to sew it.

ORGANIZATION.

When sewing is taught in public or private schools, or in institutions, it belongs to the general routine, and is governed by the same rules as other classes. The following suggestions are primarily intended for the sewing school as a distinct organization.

If each scholar is known by a number that may be used for her name, much writing is saved. The child may have an attendance card with her number, name, and address, and the dates when the school is to meet during the season. The date may be punched each time as she enters the school. *E* is used for early,

and *L* for late.* As the card is punched the girl's number is written down, and afterward the secretary marks her as present.

No matter how small the school, there should be for general supervision of the work, a Work Directress, who should also exercise the exclusive right of deciding upon promotions. If the school is so large as to require several directresses, the work should be so divided that each has certain classes under her care. By all means avoid having more than one person to pass upon any one kind of work. To judge a piece of sewing, to decide whether it is exactly up to the standard, is a very different thing from marking a spelling lesson. It is difficult enough for one person to judge always the same, while for two, it is almost impossible.

A supply box is convenient where thread and needles of all sizes, emery bags, shears, scissors, tape measures, etc., may always be found. The work of each child may be kept in a calico bag, but the large heavy brown paper envelope with a patent clasp is preferable. The work of a class may be kept in class bags or in boxes.

Each patch upon which a child is promoted, should be marked with her number and kept, to be given her when she graduates from the school. The set may be put in an envelope or book marked with her number, name, and age. The books need not be

* Punches may be bought with any letter or figure desired.

bound, but can be made by fastening together with clasps, tape or ribbon, the desired number of leaves. Neither the envelopes nor the books entail much expense, as but one is needed for each child for the entire course.

GRADED CLASSES.

It is a great advantage to have only one kind of work done in a class, and to have the scholars regularly promoted as they advance in their sewing. This promotion should be individual. As soon as a child completes a piece of work thought by her teacher to be up to the standard, she should submit it to the Work Directress, or Judge, who either promotes her or sends her back to make another trial. If the latter is done, it should be carefully explained to her in what she has failed and how her shortcomings may be remedied. If promoted, she immediately passes to the next class.

It is a great encouragement to the child to have some token of her advance to show at home. An excellent plan is to have cards printed with a list of the classes and a place for the child's number and name. As each promotion is made, a star should be punched opposite the name of the class from which she has just graduated.

The advantages of the graded system are manifold. When all are doing the same work, a teacher is able to care for more pupils. Except in the Preparatory, it is better not to have more than ten in a class,

although an experienced teacher can sometimes manage a larger number. The promotions are also a stimulus to the scholars, and make it possible to maintain a very high standard of work without discouragement. The size of the classes will vary greatly. At one time there may be a large number of girls on hemming, making it necessary to form several classes for that branch. While with two girls on gathering, one on buttonholes, and two or three making gussets, it would scarcely be necessary to form three classes, unless there were teachers to be spared. Whenever possible however, avoid combining classes in this way.

TIME REQUIRED.

A child of average intelligence begining at six or eight years of age, should complete the entire course as given in this book in four or five years. This allows for weekly lessons during six months of the year. Each lesson should be from one to one-and-a-half hours long with an intermission of five minutes. During the intermission the children may march around the room to music, or all standing, sing a song. For the smallest children two such rests can be provided. If possible the windows should be opened at this time, and if the children are moving, they will not be liable to catch cold.

HOW TO USE THE HANDBOOK.

A teacher should thoroughly understand what she is to teach before taking a class. She should carefully read over the directions, and *she will find it greatly to her advantage to do the work herself, just as it is to be taught.* If certain points are not thoroughly understood in the mere reading, they will become clear when worked out. Whenever possible, avoid referring to the book in class.

GENERAL REMARKS ON SEWING COURSE.

COMBINATION patches and samplers, have been avoided until almost the end of the Course, because in order to have such patches perfect, much ripping is found necessary, the muslin becomes soiled, and the children discouraged.

In preparing the work the scholar should always take the patches from a large piece of the goods. It is not necessary to use a whole piece, a yard or two, or even less, will be sufficient. Tear everything that can be torn when a straight edge is desired.

Teachers should be careful about the size of needles and thread, which should correspond with each other, and with the material to be sewed.

The scholar should always know what number needle and thread she is using.

It must be borne in mind that it is finish that gives strength. Both in beginning and ending, the thread should be fastened securely. There is much to be said in favor of beginning with a knot, except when there is some firmer way of fastening, as in overhanding. As the thread should always be in proportion to the fineness of the material, a small, neatly made knot should make no lump.

For the Primary and First Grade, many of the patches are sewed with a thread of some contrasting color. This is conducive to greater accuracy, as the slightest error is visible even to the inexperienced eye of the child. When the patch is sewed with a colored thread, white thread should be provided for basting.

Although certain rules are given for the size of stitches, and the number of threads to be taken up, the children should not be required to continue counting the threads after the first stitch or two. These will give the proper length, and they can be used as a guide. In all the work, care should be taken not to strain the eyesight of the children.

PRIMARY DEPARTMENT.

PREPARATORY CLASS.

Articles needed.—No. 7 Needle, No. 50 White thread, Thimbles, Tape measures, Small pieces of unbleached muslin, Black board.

EVERY child should have a needle, and about every fifth child a spool of thread. The teacher standing in front of the class should give the commands.*

First is an exercise in holding up the right hand,—the left hand,—the right thumb,—the left thumb,—the right first finger,—the thimble finger, etc., etc. Occasionally the order should be changed so as to necessitate strict attention. The needle is then held up in the right hand, the point and the eye being separately designated at the word of command.

The breaking of the thread is next in order. The first girl in every group of five, with the spool in her left hand, takes the end of the thread with the thumb and first finger of the right hand, holds the spool up to the left shoulder and slowly unwinds until the right hand with the end of thread, can reach the right

* This drill can be varied as the ingenuity of the teacher may suggest.

shoulder. She breaks off that length of thread, and passes the spool to the next girl. For each movement there should be a separate command, the teacher being careful not to issue a new order until the last has been fully obeyed. When all have their thread, the threading of the needle can be taught. The child holds the end of the thread that was broken off last, between the thumb and first finger of the right hand, and gives it a twist with the thumb and first finger of the left hand, so as to form it into a sharp point. She now holds the needle, eye up, between the thumb and first finger of the left hand, steadying it with the second finger. Steadying her hands against each other she threads the needle, at first slowly, but after repeated drilling more and more quickly. It will be an incentive to allow the child who first finishes to hold up her needle, being sure however, that all began at the same moment. If a prompt response to all commands is insisted upon, the drill will be more interesting, as well as more instructive.

The thread is knotted by having each child hold the tip end of the thread between the thumb and first finger of the left hand, twisting it once and a half around the first finger. A little forward twist with the thumb forms a knot, which is tightened by drawing the top of the thumb nail down against the knot. A perfect knot is small, and has the end of the thread entirely twisted in. Now, with the needle put aside for a few moments, the children can be drilled in the

use of the thimble. First distribute the thimbles, showing the children one by one how to know when a thimble fits. The thimble should touch the top of the finger, but should not be large enough to slip off. Explain that the thimble should always be worn on the middle finger of the right hand. As soon as each child has found the finger and put on the thimble, let her raise her hand. Be sure that every girl is wearing her thimble rightly. With their hands raised, show the scholars how to raise the thimble finger. They should bring it down so that the top of the thimble rests upon the top of the thumb, the motion being similar to that of taking a stitch. Let this be repeated until the children gain some command of the middle finger. Then allow them to take the needle. Holding it about in the middle, between the thumb and first finger of the right hand, let the top of the thimble rest upon the end of the needle, then taking imaginary stitches in the air the child will gain an idea of how the needle and thimble are used. When drawing out the thread, it should be held between the middle fingers of the right hand. It is important to teach this, for children usually hold it in the whole hand. Now tell them to unthread their needles, and put the thread where it will not be lost. Then each child having a small piece of unbleached muslin, may take imaginary stitches in it. Only one stitch should be taken at a time, the class working together at the word of command. The teacher cannot be too vigilant in seeing that each child takes

every stitch in the correct manner. Now is the time when right habits can be the most readily formed, as the child has no sewing to distract her attention.

The manner of using the emery and scissors can be explained, and illustrated by the teacher. Holding the emery in the left hand, push the unthreaded needle though the emery, bringing it out on the other side. Explain that the bag is filled with a powder, which cleans and polishes the steel of the needle. Hold the scissors with the thumb and middle finger of the right hand. Children often use the first finger, which does not give them as much power.

For the tape measure drill, a black-board is necessary. With the children watching, draw two long horizontal lines, several inches apart. This represents the tape. At regular intervals draw lines the entire depth of the tape, and before each line write a figure. These represent the inches. Be sure to begin with the figure one, as most children do not know where to begin when they wish to measure. They have often been found measuring from two, five, or some other figure, and counting it half a yard, or a yard, if they ended at eighteen or thirty-six. Carefully explaining as each line is made, draw lines half the depth of the tape to indicate the half inches, lines not as deep for the quarter inches, and still smaller lines for the eighths. If this is carefully done and fully explained, nothing further is needed but a little drill to teach them to apply their knowledge. Pointing to different lengths, call upon

some child to stand and tell how much it is. Give them first even inches, then halves, then quarters and eights. Continue until they can tell any distance instantly and without mistake. Call up each child in turn to measure with the real tape measure. Have her measure the table, a lead pencil, a handkerchief, or any small article. They should also know how many inches make a yard, a half yard, and a quarter.

Although no actual sewing is taught in this class, future success largely depends upon the thoroughness of this part of the work. The drill is not only an assistance in the sewing, but teaches that prompt obedience to the word of command, which will be found most valuable throughout the whole school work. The scholar should be able, not only to do the things well, but to do them with ease, which will necessitate much drilling. Especially should the teacher impress upon each child the rule, that nothing but the thimble should ever be used to push the needle through the work. This seems to be one of the most difficult things to instil into a child's mind, as she so easily forms the habit of using her finger.

In this class, the needles, thread, thimbles, etc., should be distributed at each lesson, and the child should soon learn to know how to fit herself with a thimble. At each lesson the entire work of the class should be gone over at least once, and when a scholar seems to be in every particular proficient enough for promotion, she should be sent to the Judge for examination. Those who are not ready for promotion

can go through the drill as many more times as necessary. If a child is incurably left handed, the rules for right and left will have to be reversed for her, but the same standard of excellence should be maintained.

Sometimes very small children are unable to reach the end of the needle with the top of the thimble. In such cases a very short needle may be used.

When a scholar is to be promoted she should have given to her a needle, a thimble, and an envelope, bag or whatever is to be used for holding the work.

TRACING CLASS.

Articles needed.—No 8 Needle, No. 50 Red thread, Unbleached muslin, 6 x 6 inches, with some simple design, traced in pencil.*

SINCE this is the first class in which sewing is done, the stitch chosen is the simplest, in order that full attention may be given to the use of the needle and thimble.

The child should be carefully watched while she is breaking off the proper length of thread, threading her needle, and making a knot. She should next outline the penciled pattern on her patch, beginning at some convenient point of the design, holding the work right side up, and putting the needle in from

*The designs illustrated (See Figs. 1, 2, 3, 4, 5, 6) can be enlarged, and made in tin, wood or card board, then traced on the muslin.

the wrong side. In all sewing the needle should invariably be drawn out on the right side, except in fastening the thread, and the thread held between the middle fingers of the right hand when the needle is drawn out.

From six to eight threads of the goods should be the length of both the stitch and the space between the stitches. Never more than two stitches should be

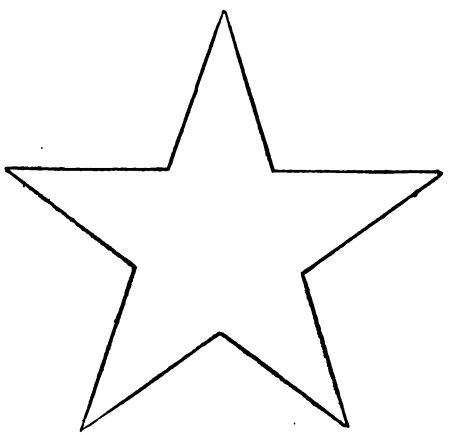


Fig. 1.

taken upon the needle at a time, and in many cases, it will be found easier for a scholar to take but one. If, as in some designs, any of the lines run bias, the child should not start with one of these, but with one that runs with the goods so that she can readily count the threads. Should there be no such lines, as in the circle or crescent, the scholar may try a few stitches on a corner of the patch until she learns the

proper length. The actual counting of the threads need not be continued after the child has learned to make the proper sized stitch without it. Great care should be taken to fasten the thread firmly and neatly. This she should do, by leaving her thread on the wrong side at the end of a stitch, and turning the patch over. She should now go back one space, and

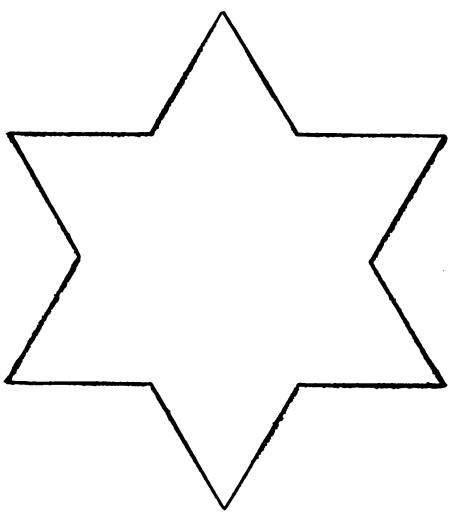


Fig. 2

just under the last stitch take up one thread of the goods, also the thread of the stitch. This should be done three times in exactly the same place, but so as not to show on the right side. The end of the thread should never be broken, but cut with the scissors. The child should be taught to do this for herself. This mode of fastening gives the double strength of the

thread of the goods, and the sewing thread, and it can be so firmly done that it will never pull out.

The principal thing to be taught is regularity. Every stitch, and every space, should be exactly the same length. Show the child that in this way, her work will look the same on the wrong side as on the right. Beside regularity in this respect, particular

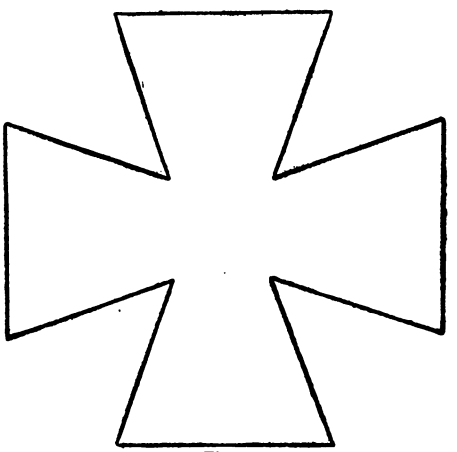


Fig. 3

attention should be given to the careful following of the traced lines, so that the shape of the figure may be clear and distinct, especially at angles or curves. When there are corners to be turned, as in the star and some other designs, show the scholar how by a little foresight, she can lengthen or shorten her stitches almost imperceptibly, yet enough to enable her to turn the corner easily.

But the child cannot attain this regularity in her sewing without a thorough command of her needle, and so the most important part of the work in this class, is to teach the proper use of needle and thimble. Great patience will be required, but thorough work in the first few classes will reap its sure reward in the classes more advanced. Although

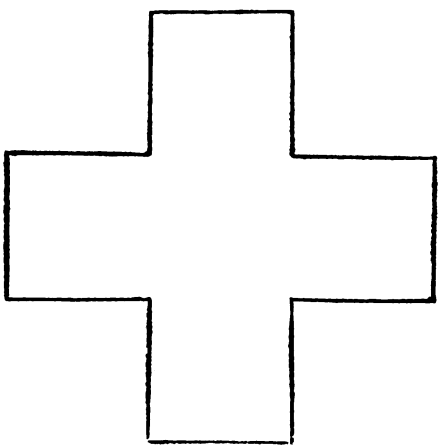


Fig. 4

it will be a tedious task for both teacher and pupil, a child should never be allowed to take a stitch without holding the needle and using the thimble in the proper way. The work should never be judged by its appearance only, as often this simple sewing can be quite neatly done by wrong methods, and bad habits are formed which are almost impossible to cure.

With the exception of tracing the pattern in pencil, the child should be required to do everything for herself. She should also be taught when an emery bag is necessary, and how to use it. As soon as the needle ceases to go through the goods easily or becomes the least rusty, the emery should be used

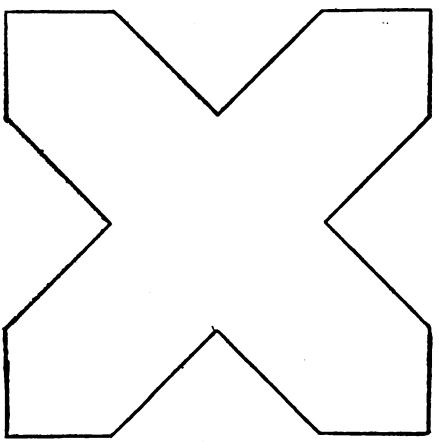


Fig. 5.

STITCHING.

Articles needed.—No. 8 Needle, No. 50 Red thread, Unbleached muslin, 5 x 5 inches, with numbers or letters, about one inch high, distinctly traced in pencil.

THE child should be watched while she measures and breaks her thread, threads her needle, and makes a knot. She should also be under constant supervision in regard to the manner of taking her stitches, using

her thimble for every stitch, and holding the thread between the middle fingers.

The teacher can explain that as there are different kinds of stitches used in sewing, so there are different ways of beginning and ending a piece of work. For instance, in the last class the sewing was begun with a knot, while in this class no knot is used, and the

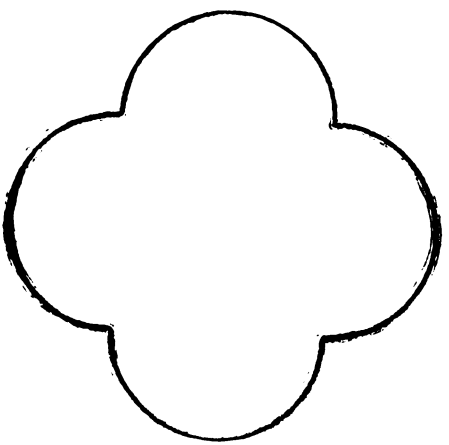


Fig. 6

work is started on the right instead of on the wrong side. In beginning, the scholar should take on the needle four or five threads of the goods, pulling the sewing thread through to within half an inch of the end, which is to be cut off later. Next take a stitch back to where the first was started, and bring the needle through four or five threads ahead of the first stitch. This process is repeated continually, the result

being an unbroken line of sewing. The utmost care is needed to make the stitches of uniform length, to round the corners neatly, and particularly to see that each stitch meets the preceding one without any break. The end of the thread should be fastened the same as on the tracing patch, by taking up a thread of the goods on the wrong side immediately under the last stitch, which should also be taken up, and doing this three times in exactly the same place. As in the tracing patch the fastening should not show on the right side.

Let the teacher bear in mind that the scholar is not yet experienced enough in the use of the needle and thimble to do without her constant oversight, and until the right way of doing things becomes easier than the wrong way, the teacher must exercise the utmost vigilance.

FIRST GRADE.

OVERHANDING.

Articles needed.—No. 9 Needle, No. 60 White thread, Calico or cambric with even stripes about a quarter of an inch wide, 6 x 6 inches, White muslin with selvedge, (Pride of the West), 6 x 6 inches.

THREE kinds of overhanding patches are here made, and the child must be able to do each perfectly before she can be promoted. First, is the patch on which the sewing runs with the stripe of the goods. Second, that on which the sewing runs across the stripe, and on this after the first seam is finished, the goods is cut again at right angles to the first sewing, and with the stripe of the material. This necessitates sewing across the other seam, and great care will be needed to have it neatly and firmly done. The third patch is of white muslin, and two selvedges are sewed together.

All the patches should be six inches square. For the first two patches, cut carefully down the middle on the dividing line of the two middle stripes.

Now can be explained to the child what a seam is,

the joining together of two separate pieces. Ask her for examples of seams that she has in her own garments, or has seen elsewhere. Letting her hold in her hand the two pieces of her patch, ask:

"Would it be right to overhand these raw edges?" "No."

"Why not?" "They would ravel."

Have her show how she thinks they should be sewed. See if she can tell how to turn the edges so that when sewed the stripes will match on the right side. On one piece a colored stripe is turned in, on the other a white, the sewing being along the line between the stripes.

"When finished, is the sewing to be on the right or wrong side?" "On the wrong."

After carefully turning, then baste, holding the two printed sides face to face. The even basting stitch is used, with stitches and spaces about half-an-inch long.

"What kind of thread is always used for basting?" "White."

"Why?" "Because, as it has to be ripped out, a colored thread might soil the material."

"Is all sewing begun with a knot?" "No."

"What patches have you already had, where no knot was used?" "The stitching patch."

Now explain that overhanding also is begun without a knot, although not in the same way as stitching. As the beginning, joining, and fastening a thread form a very important part of sewing, the teacher should

take especial care to have the child thoroughly understand, and carefully follow, instructions.

In overhanding, the work is held firmly between the thumb and first finger of the left hand, the hand always being over the work. Never hold the work around the first finger, as in a seam of any length it will pucker, and make the ends come out unevenly. Always sew from right to left. Never in any kind of sewing pin the work to the lap, or hold it otherwise than with the hand.

After seeing that the scholar understands how to hold her work, let her begin to sew.

First draw the needle through both pieces of the goods, leaving not less than a quarter of an inch of the end of the thread. With the help of the needle, lay this end on the top of the seam. This is then sewed over, and so firmly held, if properly done, that it will never pull out. At each stitch the sewer should be sure that both sides of the seam are securely caught. In the effort to make the stitches small, this is often overlooked.

To avoid a ridge when the seam is opened, the stitches should not be any deeper than this security demands, and as much care should be taken to have them of uniform depth, as to have them at equal distances from each other. Three threads of the goods between each stitch make about the proper distance.

After each stitch throw back the thread, put the needle in straight at right angles to the seam, with

the point toward the sewer. This makes a slanting stitch. Care should be taken to have each stitch drawn tightly, but not too tightly. If the thread breaks, or a new one has to be used before the seam is finished, join as follows: Cut the old thread, leaving an end about a quarter of an inch long. Begin with the new thread as in starting the patch, making the first stitch the usual distance after the last one that was taken, so as not to mar the regularity of the sewing. Lay both the end of the old,and the end of the new thread on top of the seam and sew over both, exactly as was done at the beginning. To fasten the thread when the patch is finished, take three of the ordinary stitches exactly in the same place, one over the other, drawing the thread rather tightly. The thread is then cut close. Another way to finish an overhanded seam, is to turn the work around and sew back four or five stitches. Remind the child of the rule, never, under any circumstances, to break a thread, for it is almost sure to draw the work. The seam is not finished until the bastings are ripped out. The patch is then opened and pressed as flat as possible.

Use the thumb nail, first of one hand, then of the other, so that the seam is pressed in both directions. Carefully examine the work on both the wrong and right sides, pulling it so as to see whether every stitch has caught in both sides of the seam.

In using the striped calico, great care should be taken to have the stripes perfectly matched.

The selvedge seam is perhaps the most difficult.

The longer the seam, whether with selvedge or not, the greater the care needed to have the ends come out perfectly even. To avoid puckering, sew from one end to the middle, then from the other end to meet it. This can be done on the selvedge patch and will show the scholar the proper way, although in so short a seam it is not necessary.

Overhanding is also called top-sewing.

In this class, and always hereafter, there is absolutely nothing that the child should have done for her. The teacher's work is simply to see that all is properly done, and throughly understood. The child measures and tears her patch from a large piece of the goods. Here the teacher will have an opportunity to see that the scholar can apply the knowledge gained in previous classes, such as the use of the tape measure, etc. She should also be taught economy of material.

FOLDING HEMS.

Articles needed.—Narrow strips of paper, 20 inches long, and 1 inch wide,* Squares of Paper 5 x 5 inches,† One pair of scissors for each child, One pair of each kind, blunts, mediums, and pointed, for illustration.

THE object in this class is to teach precision in the folding of hems, both narrow and wide. In it the child is also to learn the use of the scissors by cutting into narrow strips, pieces of paper from ten to twenty

* Kindergarten Interlacing Strips, No. 431.
† Kindergarten Folding Paper, No. 204.

inches long. Before proceeding to this, however, explain the three different kinds of scissors in ordinary use. The blunt, with neither tip pointed; the medium, with one tip pointed; and those that have both pointed. The medium, the kind most generally used, should be held with the pointed blade down, which more readily goes under the goods. The weight of the blade is a help in cutting. Scissors should be held with the thumb and middle finger.

As soon as the child is able to manage her scissors with ease, she may proceed to the folding of the narrow hem.

Give the scholar the square of paper, which she should hold on the palm of her left hand, while she is asked the following questions.

"What shape is this paper?" "Square."

"Which are the sides?"

"How many sides has it?"

"Point to the corners."

"How many corners are there?"

On one side let her make a turn as narrow as possible, a little less than an eighth of an inch wide. The second turn should be about an eighth, which will be just enough to cover the first fold. In all the hems, the first fold should be very narrow, and the teacher should insist that great care be taken to fold it exactly, as the evenness of the finished hem depends so largely upon this. In folding the hem of a square, first finish the two opposite sides, then the other two sides. In all cases where two

hems mee., fold the first hem twice before beginning the other.

When a narrow hem has been perfectly folded on the four sides of a paper, fold another piece with wider hems. For the wide hem the rules are the same as for the narrow one, except that the second fold, instead of being an eighth of an inch wide, should be one half inch, and the two diagonally opposite corners should be mitred. To mitre a corner, turn under the corner of the second or top hem, so as to make a triangle of the part thus turned. In perfectly turned hems, the edge of this fold will run from the corner of the patch exactly to the angle made by the meeting of the two hems. After having mitred the corner, unfold the triangle, lay open the upper hem, and with the scissors cut the lower hem along the crease made by the second fold of the upper hem. Cut to about an eighth of an inch from the edge of the lower hem, then turning at right angles, cut to the end. In this way the part of the under hem, covered by the upper one is cut out, the eighth of an inch left preventing ravelling.

The object of cutting a mitred corner is to make it less clumsy. It is usually done only on heavy or thick goods such as flannel. Even on the paper, however, the child may feel how thick the corner is before cut. When one or both hems are very narrow, although the material may be heavy, the corners are neither mitred nor cut. When not mitred, particular care should be taken to fold the

corners with great exactness, especially in turning the second hem.

In folding any but the narrowest hems, the edge of a card, notched to measure the width, may be used as a guide.

HEMMING.

Articles needed.—No. 8 Needle, No. 9 Needle, No. 50 Red thread, No. 60 White thread, Unbleached muslin, $6\frac{1}{2} \times 6\frac{1}{2}$ inches, White muslin, (Pride of the West), $6 \times 7\frac{1}{2}$ inches.

LET the teacher begin by questioning the scholar.

"What kinds of sewing are there besides seams?"

"Hems, buttonholes, etc., etc.

"Why are these not seams?" "Because they are not used to join together two separate pieces."

"For what is a hem used?" "To make a finish on the edge of a piece of work."

"How is a hem made?" By folding over the raw edge twice so that it is completely hidden, and then sewing down this fold."

"Are all hems of the same width?" "No, they can be made as narrow or as wide as desired."

In this class two kinds of patches are used, those of unbleached muslin sewed with colored thread, and those of white muslin sewed with white thread.

Let the teacher remember that the scholar is to do everything for herself. She should measure her patches from a large piece of the goods.

The hem on the unbleached patch should be half an inch wide. In preparing this patch remind the child of similar work done on paper in the last class. The first fold is made as narrow as possible. Great care is needed to have this very exact, for as the scholar has already learned, the evenness of the hem depends largely upon the first fold. The second fold can be measured with a notched card or piece of paper. The child should measure and notch this card for herself, being shown how. Measure the desired length at the edge of the card, and make a straight cut into the card. Below this, cut at an angle so as to take out a three cornered piece. This measure is called a gauge. To measure the hem, take the gauge, placing it on the hem, and creasing the second turn of the hem the same width as the gauge, for about an inch. Now begin to baste, moving the gauge a little in advance. Always baste a hem close to the edge so as to catch securely the first fold.

Two opposite sides having been turned and basted with the even basting stitch, turn and baste the hems on the two other sides. Two diagonally opposite corners are mitred and cut, the other two are not. The sewing is begun at one of the unmitred corners if possible. If the sewing is begun at an unmitred corner, first overhand the edge, then hem. Put the needle through two threads of the under hem, and about two threads of the upper hem. The stitch is not to show on the right side until the extra thickness of two hems is passed, then each stitch must show

regularly and evenly. The work is held over the first finger of the left hand,—of course never pinned to the lap. If necessary to begin at a mitred corner, begin without a knot, put the needle through the upper hem at the extreme corner, draw the thread through to within about a quarter of an inch of the end, tuck this under, and take the next stitch. For this take up two threads of the under hem, and two of the upper. As at the other corners, the stitches are not to show on the right side until the under hem is passed.

In turning a corner, if sewing on the upper hem, continue right on. If the corner is unmitred, overhand the end to the outside corner, then slip the needle between the hems to the corner inside the hems, and continue from there. If the corner is mitred, sew along the diagonal to the outside corner, then slip the needle under. If sewing on the under hem, when the other is reached, at once slip the needle through to the outside corner, and then sew. By not sewing through where the hems cross each other, the effect on the right side will be a perfect square, the stitches meeting, but not crossing at the corners.

In this patch the smallness of the stitches is not as essential as to have them at equal distances, and to make each stitch slant exactly right. To ensure this, the needle should go into the work, close enough to the hem to touch it, but not under it, and just midway between where it came out for the last stitch, and where it is to come out for the next one. The needle

should be almost parallel with the hem. Hemming stitches should not be upright, nor perfectly straight like running, neither should they be too crowded. The length of the space should be equal to the length of the stitch.

That the child may easily judge her own work, the colored thread is used, which by contrasting color shows the slightest variation. To fasten a thread, take three over and over stiches in the same place through the inside edge of the hem, without taking up any of the goods underneath. When necessary to fasten a thread before the hem is finished, it is done by cutting the thread, leaving about a quarter or half an inch, tucking this under the hem, and beginning the new thread as in starting the patch. Be careful not to interrupt the regularity of the work on the right side.

In beginning a new thread the greatest care must be taken that with the first few stitches, the end that has been tucked under the hem is not pulled out.

On the white patch the sewing is required to be very fine. In the effort to make the stitches small, care will be needed to have each one catch the hem down securely, and also go entirely through the goods.

On the two short sides make a hem as narrow as possible. When these are finished, make a hem on one end an inch wide. The wide hem should be basted, the narrow ones do not need it.

In connection with the hemming, the child may be taught how to finish the opening at the back of a

skirt. Hold the patch wrong side up, the wide hem toward the sewer. Measure three inches from the right hand edge, and from the raw edge tear down two and a half inches. On the right hand side of the patch, begin at the narrow side hem, and with the same width hem sew across the top of the patch, and continue down to the point of the tear. Roll the edge under to the very point, so that it will not fray. Hem with the narrow hem the remainder of the top of the patch. On the remaining raw edge of the opening make a hem one inch wide. Fold the patch so that the outside edge of the narrow hem on the opening, is on a line with the inside edge of the wide hem. The hem is held in this position by a line of fine stitching across it at the bottom of the opening.

TWO-RUNS-AND-A-BACKSTITCH, OVER-CASTING AND RUNNING.

Articles needed.—No. 8. Needle, No. 50 Red thread, White basting thread, Unbleached muslin, 6 x 6 inches.

LET the teacher begin by asking:

"For what is the backstitched, overcasted seam generally used?" "For waist seams."

The patch here used is prepared by tearing it directly down the middle. This the child does for herself, having measured the patch from a large piece of the goods. When torn, the pieces are basted together with white basting thread, about a quarter of an inch from the edge. The even basting stitch is

used, and on this patch for the first time appears the necessity for having the basting perfectly even. On no previous patch has the basting been used as a guide for the sewing. This should be explained to the child. The sewing comes immediately below the basting. It is begun without a knot the same as in stitching. Take the first stitch upon the needle, pull the thread until the end is about to disappear in the goods, then take a stitch back to where the first was started, and bring the needle out just twice as far as the first time. In the stitching class a little end of thread was left when the first stitch was drawn through. This was afterward cut off. As it was left only to prevent the thread slipping entirely through, the scholar being now more experienced, should not need it. On this patch take for each stitch about three or four threads of the goods.

After fastening the thread, take upon the needle two new stitches, draw the thread through, then go back one stitch, being particular to put the needle exactly where the last stitch went in. Thus it continues, back one stitch, forward two new, all three being taken upon the needle together.

In finishing off a thread, fasten it the same as in stitching. Bring the needle through to the wrong side, take up a thread of the goods under the last stitch, which is also taken up. Do this three times in exactly the same place. To ensure straight sewing a thread of the goods should be followed. Rip out the bastings.

"Is this seam now finished?" "No, for it has raw edges."

"What is to be done with them?" "They are to be overcast."

"What is the difference between overcasting and overhanding?" "Overhanding is the real sewing of the seam itself, while overcasting is only used to keep raw edges from fraying on a seam already sewed. Overhanding is therefore much closer and finer than overcasting."

"In what are they alike?" "They are both done on an edge, and the manner of taking the stitch is similar."

Before overcasting this patch, the edges,—if they have ravelled very much,—may be carefully trimmed by the scholar. The overcasting is begun with a knot which is concealed by taking the first stitch from the inside of the piece nearest the sewer. Count forward about eleven threads of the goods from this first stitch, mark by making a hole with the needle, then throw back the thread, draw the needle through from the other side, bringing it so that it comes in the hole. Again count eleven threads forward, and continue as before. When finished, fasten the thread by slipping the needle in between the two pieces of the material, and bringing it out on the line of the backstitching. Here fasten by taking three stitches, one over the other. To have the overcasting quite perfect, the stitches must be not only at equal distances, but of equal depth.

This can easily be done by following a thread of the goods.

The child should be made to feel that only by attention to every detail, can there be perfect work.

Running is also done on this patch.

"For what is running used?" "Mostly for gathering and tucking, as it is not strong enough for a seam, unless used in combination with a backstitch."

The running should be parallel with the seam, half-an-inch below it, and must follow a thread of the material.

Begin the same as with two-runs-and-a-backstich, and continue the same, but without going back. Fasten the thread in the same way. Two or three threads of the goods should be the length of the stitch, the spaces exactly the same. This is the same stitch as was used on the tracing patch in the first part of the Course, only that now the sewing is very much finer, and several stitches can be taken at a time. If spaces and stitches are exactly even, as they should be, the work will look the same on both sides.

After the first line of running is finished, a second is to be made parallel with it, and half-an-inch distant. This is to be done exactly as for gathering. Begin with a knot on the right side, taking two or three threads of the goods for each stitch, and skipping once-and-a-half this length. This is the rule for gathering, the spaces once-and-a-half the length of the stitches.

WEAVING.

FIRST DIVISION.

Articles needed.—No. 7 Needle, Worsted needle, White basting thread, Single zephyr worsted, Canvas 6 x 4 inches.*

BEFORE beginning, show the child how the canvas is woven. This can be done by taking a piece not less than a quarter or half a yard long and including both selvedges. On this the teacher can show how certain threads run lengthwise. Across these another thread has been passed over and under, over and under, until it reaches the edge, when it is turned back, thus making a loop, and then passed over and under again, until, reaching the other edge, it is turned once more, and so on continuously. This is called weaving, and the line of loops made by the turning of the thread at the edge is called the selvedge, meaning *self-edge*, an edge made by the thread in the process of weaving. Let the teacher carefully explain all this, and also that the threads running the length of the material, are called the warp. In weaving, these are always placed first, and then the woof is woven in. The woof makes the selvedge. The difference between warp and woof should be so impressed upon the child, that she can never forget it.

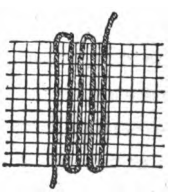


Fig. 7.—Canvas patch.

In beginning the patch turn a hem on the two long sides. This hem should be about a quarter of an inch

*An evenly woven canvas with regular spaces of $\frac{1}{16}$ of an inch, should be used for this work.

wide, the canvas being too heavy to admit of a narrower one. Baste these hems, taking care to fasten the thread securely at the beginning as well as at the end, as a knot will slip through. Overcast the raw edges of the canvas at each end. Cut six or eight threads of the canvas at the inside edge of the hems not too near the overcasting. Be very particular that the same threads are cut at each end. Now pull out the first of these threads with the needle, stitch by stitch. Pulling out thus all the other cut threads, the warp only is left and upon this the worsted woof is to be woven. The teacher should be sure that the child thoroughly understands what she is about to do do.

Thread a needle with worsted, making a knot at the end. Here the child can be taught how a worsted needle is threaded. Near one end draw the worsted tightly over the needle. Draw the needle out, leaving a doubled, but flat, clear-cut edge of worsted, which will readily go throngh the long eye of the needle. When threaded and knotted, run the needle under the hem, so that the knot may be concealed. Starting from the edge, and working on the right side, weave in the woof. Go over the first thread and take up the next and so on, straight across, until the other hem is reached. Here leave a small loop so that the selvedge may be distinct. Again the woof is woven across, again turned, and so on until one more thread is woven in, than was taken out. Fasten off the worsted by running the needle

under the hem on the wrong side and taking two or three stitches over and over on its inner edge.

The principle mistakes to be guarded against are:

Cutting a thread of the warp.

Skipping threads in weaving, or weaving over and under the same threads in consecutive lines.

Tangling the short threads left in the hem, or skipping some of the spaces between them.

Making the selvedge too tight or uneven.

The purpose of this First Division of the Weaving Class is to teach the first principles of weaving, by practical demonstration, including a knowledge of warp, woof and selvedge. It also includes the rudiments of darning.

In addition to this, the manual skill required in preparing the patch, and the necessity for accuracy, greatly facilitates the future progress of the child.

WEAVING.

SECOND DIVISION.

Articles needed.—Shears, Scissors, Tape measure, Piece of unbleached muslin, Paper 5 x 5 inches,* Samples of fine and coarse muslin, some Canvas, Twill muslin, Satin, Double faced cloth, Figured calico, Velvet, Brussels carpet, Felt, Raw flax and raw cotton, A large table.

INSTRUCTION in this class, should give the scholar a thorough understanding of the principle of weaving, as well as much other information.

Concerning weaving each child should be able to

* Kindergarten Folding Paper, No. 204.

give in her own words an intelligent definition of it. Weaving is an art by which threads of any substance are crossed and interlaced so as to form a texture. Ask the children to name all the materials they know, that are used for weaving. The teacher may add any omitted, giving examples whenever the scholars are unable to do so, and if possible showing specimens of the materials in their raw and finished state.

Following is a list of the most important textures and the raw materials from which they are made.

Vegetable products:

Linen, from the flax plant,
Cotton goods, from the cotton plant.
Various articles are also made from grass, rushes, and the bark of trees.

Animal products:

Silk, from the cocoon of the silk worm.
Woolens, from the wool of sheep.
Hair goods, from the hair of the camel or other animals.
Mohair, the long silky hair or wool of the Angora goat.

The simplest mode of weaving is to have a frame, or loom, upon which the warp threads are laid, then with a hand shuttle to weave in the woof.

Be quite sure that each girl thoroughly understands which is warp, and which is woof. Have the scholars spell the words, for they are very likely to mispronounce the word woof. The warp is the thread laid first on the loom, and always runs the length of the

goods. The woof runs across the goods and forms the selvedge. Repeat that this word is derived from the two words self and edge, meaning an edge made by the thread itself. Plain weaving, where the threads interlace each other alternately, may be seen in such materials as plain muslin, or canvas. In the latter the children can readily follow the threads. But besides plain weaving there are other kinds which produce twills, satins, double-faced cloth, figured weaving, and pile fabrics such as velvets. The general principle however, is the same in all, but instead of interlacing the threads alternately, a certain number of consecutive threads are taken up, or dropped, at given intervals, thus forming a simple twill, or elaborate pattern.

Some figured goods do not have the pattern woven in, as for example calico, on which the pattern is printed.

Pile fabrics are produced by leaving loops which may remain uncut as in Brussels carpet, or they may be cut as in velvet. These loops, either cut, or uncut, are called the pile.

If the scholars thoroughly comprehend the principle of plain weaving, only a short explanation will be necessary to show them that all fabrics are not produced by this simple process, although even when most complicated the principle is exactly the same. Except in the most primitive weaving, all the work is done by machinery.

The children should have shown to them samples

of materials illustrating the different kinds of weaving. Tell them also that there are some materials that are not woven. Felt, for example, is made from a kind of wool or fur pulp, and pressed. Have them examine a piece and tear it apart, and they will see that there are no threads of the warp and woof. There are also knitted goods.

Explain that different materials are woven in different widths.

To cut a piece of woven goods bias, is to cut diagonally across the weaving. In sewing, two kinds of bias are used, the true bias, and the fell, or garment, bias. To find the true bias, fold a square so as to bring two diagonally opposite corners exactly together, and then crease the fold. This crease should be across the square diagonally from corner to corner and marks the true bias. Show them that a perfect square folded diagonally from corner to corner will always form a triangle, and the other two corners will match exactly, and a side on the length will correspond to a side on the width. Distribute to the scholars small squares of paper with which they can practice until each girl is able to fold, and neatly cut, a true bias. Cut without unfolding. Explain that this is the bias used in stores when goods are bought on the bias, and show them how they can find the true bias on a long piece of muslin, as they found it on the square of paper. The object is of course to find a square, and in the very finding of it the bias fold is made. First see that the end of

the piece of muslin is perfectly straight. Lay the material on a table before the child, with one of the selvedge sides toward her. Take the corner on the opposite side and fold it over so that it shall reach to the selvedge nearest her, with the raw edge of the muslin exactly in line with that selvedge. A square has thus been formed according to the rule that the child learned in folding the paper, and the diagonal fold made is of course a true bias. When in a shop any material is to be sold on the bias, a bias end is first made by folding and cutting in this way. When a customer desires any given length, a quarter of a yard for instance, the quarter will be measured first at one selvedge, and then at the other, and so cut across. Or the muslin is folded over so as to bring the upper selvedge exactly parallel with a woof thread. If this last point is carefully attended to, the bias will always be correct. The true bias is also used in cutting bindings, and sometimes for facings and for ruffles.

The fell or garment bias slants less than the true bias, but need not slant always the same, as it varies according to the shape of the garment. The angle at which it is generally cut for gored skirts can be illustrated with paper. Give the scholar a square, have her tri-sect one side, marking with little creases, then the opposite side. Now fold diagonally from corner to corner of the middle third. Cut along this crease with the paper folded. Lay the bias edges side by side, the wide ends together, and the narrow

ends together, and the child will get the idea of the gored skirt.

Paper and all materials that fold perfectly flat, should be cut folded. Wiry goods such as serge, flannel, etc., as well as velvets and all pile goods should be opened before cutting.

The principal advantages of the bias are its strength, and its elasticity. Allow the child to take a large piece of muslin and tell her to pull with the warp, or the woof, and she will see that it does not stretch. Pull diagonally and it will stretch considerably. Take a bias edge and try to tear it, and it will be found to be very strong. These qualities of the bias are what make it suitable for bindings, and for facings, especially on curves. The elasticity of the bias in a seam makes the garment sag, unless a straight edge is sewed to it. When the shape of the garment necessitates the bringing together of two bias edges, always fell or bind the seam to prevent the stretching. In sewing a bias seam, always sew from the wide end to the narrow, to avoid fraying the edges.

Give the scholars these two rules:

Always cut the length of a garment with the warp of the material.

Always cut the length of a band with the warp.

Why? Because the warp threads are stronger than the woof threads. The warp being laid first on the loom, and these threads having to bear all the strain of weaving in the woof, it is necessary to have

them stronger. Therefore, whenever tearing a piece of muslin across the warp, that is, from selvedge to selvedge, always roll over the muslin away from the tear as soon as it is torn, to avoid the danger of the tear turning to one side. In tearing quickly across the warp, this is very likely to happen, for there will be of course less resistance from the woof threads. Always cut through a selvedge, as in most materials the warp threads are laid a little more closely at the edges, in order to strengthen them. If an attempt is made to tear through the selvedge, it requires such a violent pull as to stretch the muslin out of shape. When a piece of muslin gets out of shape, it is because it has been stretched by having been pulled diagonally or bias. To straighten it, first pull diagonally in the opposite direction. Continue pulling first in one way, and then another, until the piece is straight.

In this class the scholars should be taught the difference between scissors and sheers. Scissors have both handles alike. Sheers have one handle larger than the other, so that on one side all four fingers may be used in holding them. This is because shears are usually larger and heavier than scissors. Scissors are, however, sometimes larger than the smaller sized shears. Shears should always be used for cutting out garments.

The instruction in this class should be very thorough. Which is warp, and which is woof, should be asked again and again, until it is learned never to

be forgotten. In fact the whole should be reviewed until the teacher is quite sure that everything is understood. There is, perhaps, no class in the entire course more important than this.

After passing through the two Divisions of the Weaving Class, the scholar should work more intelligently, with greater facility, and should be trained to use her judgment.

FELLING.

FLAT FELL.

Articles needed.—No. 8 Needle, No. 50 Red thread, White basting thread, Unbleached muslin, 5 x 6 inches.

HERE comes an application of the knowledge gained in the preceeding class concerning the bias. Recall the difference between true bias and fell, or garment, bias. The scholar prepares her own patch. The length of the patch should be with the length of the goods, and is to be cut for a fell bias. Remind her that she has done this on paper, and now is to do exactly the same on the muslin. Divide the two short sides of the patch into three equal parts, marking them by creases. Lay the patch open and make a diagonal crease from corner to corner of the middle third. This gives the proper angle for the seam. The two short distances being equal at both ends, the long distances will also be equal. The child should measure and see that they are so. The patch is now cut along the crease.

Have the scholar give as many examples as she can of seams that are on the bias. Skirt seams, certain seams on a waist, and also on most undergarments. See if she knows how this patch is to be joined. It should be joined along the bias edges, with the two narrow ends together, and the two wide ones.

"Is the sewing to be from, or toward, the wide ends?"

"From the wide to the narrow."

"Why?" "Because if in the other direction, the raw ends of the threads of the goods would become rubbed and frayed."

This is an important rule, and must be thoroughly impressed upon the scholar. Baste the seam with the even basting stitch, the edge of the piece next to the sewer an eighth of an inch below the other, and the basting the same distance below the lower edge. Baste very evenly and sew immediately below. The regular backstitch is used, begun and finished in the same way as on the backstitching patch. The length of the stitch should be three or four threads of the goods. When the patch is finished, rip out the bastings, lay open the seam, turn down the edges with the projecting one on top, the edges toward the sewer. Press open the right side of the patch very carefully, so that it is perfectly flat. Turn in the seam and hem it. This hem is not basted, but turned under with the needle or the aid of the fingers, about an inch at a time. The greatest difficulty will be to keep the seam perfectly flat on the right side. The stitches

should be very small and perfectly regular. When two bias edges come together, they should always be felled.

FRENCH FELL.

Articles needed.—No. 9 Needle, No. 60 White thread, White muslin, Pride of the West, 5 x 6 inches.

For the French fell, prepare a patch the same as for the flat fell. Without basting, run the narrowest possible seam on the right side of the patch, holding the edges of the seam even. Open the patch, and press out the seam perfectly flat. Turn, and on the wrong side take a seam just wide enough to cover the raw edges of the other seam. This work should be begun with a knot, which can be concealed, and finished the same as the other fell.

The French fell is much easier to make than a flat fell, and can be used when a nice finish is desired on the wrong side.

SECOND GRADE.

SEWING ON TAPES.

Articles needed.—No. 9 Needle, No. 60 White thread, White muslin, (Pride of the West), 4 x 4 inches, White cotton tape á la Croix, No. 20.

FOLD the muslin double, turn in the raw edges about an eighth of an inch all around, and neatly baste them together with a small, even basting stitch. This is not to be ripped out. The tape is to be sewed in the middle of the folded edge. Cut a piece of tape four inches long. To sew it, lay the raw end of the tape parallel with the folded edge of the patch. Sew it to the muslin the same distance from the edge of the muslin as the width of the tape, slanting the stitches just a little that they may correspond with the hemming. When finished, turn the tape over and hem both sides as far as the edge, then turn it back again and overhand it to the edge, being careful not to take the stitches too deep.

When finished press it perfectly flat with the thumb-nail. The end of the tape should be hemmed to prevent it from ravelling. With a knotted thread take a few running stitches across the end before

turning it down, and for hemming, continue with the same thread without breaking. This will keep the tape from spreading.

If preferred, tapes may be hemmed around three sides, then turned and overhanded to the edge, or they may be stitched on all four sides. However sewed, the main point is to have the work neat and the tape secure.

GATHERING AND PUTTING ON A BAND.

Articles needed.—No. 9 Needle, No. 60 White thread, White muslin, Pride of the West, 8 x 4 inches and 4 x 2½ inches.

THE large piece is hemmed with the narrowest possible hem on the two short sides. These of course are not basted, and this part of the patch must be as neatly and carefully done as any other. Before beginning to gather, mark the middle point between the two hems by doubling the patch, and with needle and thread make a small cross stitch, to be ripped out when the patch is finished. Fold and mark the middle of both bands. This is done to aid in making the fullness even. The gathering is done with a double thread, not only for strength, but because when double, the thread more exactly fits the hole made by the needle, and when the gathers are pushed together, they will remain in place better. If carefully handled the double thread should not get into knots. The rule for ordinary gathering is to take up once-and-a-half as much as is left down, working on the right

side. With a knotted thread begin the gathering. Sew about a quarter of an inch below the edge on one of the long sides. Take up three threads of the muslin, and skip six. Follow a thread of the goods. Never take more than five or six stitches on the needle at a time. When finished, draw the thread as tight as possible, take out the needle, put a pin in the goods at the end of the sewing, and at right angles to it. With the gathers drawn rather closely, twist the thread around and around the pin until securely held. Take the needle, lay the eye end on the first stitch at the left, and draw down in a straight line as far as possible. Repeat this at every gather. This is called stroking, and there should be no scratching sound in doing it. Hold the stroked gathers firmly between the thumb and first finger of the left hand, adding each fold as it is about to be stroked. Turn the work the other way, and do the same from above the gathers. To stroke neatly, great care will be required, especially as the scholar has done nothing like it before.

Take the band, and turn down an eight of an inch all around, and crease the band double along the length. Unwind the thread, take out the pin, and put the thread in the needle. Let the gathers out until they are equal to the length of the band, with the ends turned in. Having gotten the correct length, securely fasten the gathering thread by taking three small stitches over and over. Lay the right side of the band with the ends turned over against the right side of

the patch, the patch toward the sewer, the middle of both together, the ends just even, also the edge of the band and the edge above the gathers. Fasten the end by sewing with an over and over stitch about three times through the end of the band and the hem on the end of the patch. Do the same at the other end, being careful not to catch in any of the gathers. If this is properly done, the band will never rip at the ends. Now place the gathers as evenly as possible, and again fasten, this time just in the centre. Baste along the line of the gathering. It is not always necessary to baste for so short a band, but on a practice patch it is better, so that the child may learn how to do it without disturbing the even distribution of the gathers. Sew immediately below the gathering line with the ordinary backstitch, except that instead of taking each time two new stitches forward, with the backstitch, only one new stitch is taken. Each backstitch goes across a single gather, the new stitch taking in one gather in advance, which the next backstitch goes over. Fasten very securely. Rip out the bastings. Open the patch, and press back the band as tightly as possible. Now double the band as previously creased, with the eighth of an inch turned in on the edge. Hold it up to the light and see that both edges of the band are exactly even. Baste it thus, without sewing all the way through. Overhand the ends very neatly. These things are apt to be slighted. Always impress upon the child the necessity for care in the smallest details. The band is now

hemmed, one gather being taken with every stitch. This hemming may be begun with a knotted thread. The stitch must not show on the other side. Rip out the bastings.

The other side of the patch is now gathered and stroked. This band, however, is hemmed on both sides. Crease a turn an eighth of an inch, all around the piece to be used for the band. Lay the right side of the band against the right side of the gathers. Fasten it at both ends and in the middle, keeping the edges even and distributing the gathers regularly. Turn up the band and on the right side baste it to be hemmed. Now hem it. Fold it over as on the other band, creasing it at the top, and holding it up to the light to see that the edges are exactly even on both sides. Baste this down. Overhand the ends, and hem the band.

BUTTONHOLE AND SEWING ON A BUTTON.

Articles needed.—No. 9 Needle, No. 40 White thread, White muslin, Pride of the West, 5x6 inches, Buttonhole scissors.

THE buttonhole is something entirely different from anything yet taught, therefore the scholar will require more than the ordinary attention. Here as elsewhere however, she must do everything for herself. The length of the patch must be with the warp. Turn in

an eighth of an inch all around, double it lengthwise and baste the edges neatly together with the even basting stitches. Put the knot inside, and fasten the end of the thread firmly. This is not to be ripped out even when the patch is finished. The patch is now ready for the buttonhole. Before cutting it the child should practice using the buttonhole scissors on a piece of paper. Laying the button on the paper she marks its diameter by making a dot with a pencil, or a hole with her needle, on one side of the button, and again on the other side directly opposite. She then fixes the gauge on the scissors so that they will cut just a trifle larger than from dot to dot. To be sure that it is right, slip the button through when the slit is cut. Allowance must be made for what the sewing will take up. The child should practice on the paper, and then on scraps of muslin, until she thoroughly understands how to use these scissors. Do not hurry with this—the time is not lost—for the cutting of a buttonhole is very important. The buttonhole on the muslin, must always be cut by a thread of the material.

Use as coarse a thread and as fine aneedle as will go together. As it is unpardonable to have a thread break or give out before the buttonhole is finished, the length of the thread taken is important. About three quarters of a yard is needed for the ordinary sized buttonholes. The bar is to be on the end of the buttonhole nearest the basted side, which represents the inside. Begin here and without a knot. Take

upon the needle about six threads, three above the buttonhole, and three below, draw the thread through, the same as when beginning stitching, going back again to where the needle went in the first time. Repeat this three or four times. This is the foundation for the bar; now overcast, or as it is sometimes called, serge. The buttonhole is held parallel with the sewer on the first finger of the left hand, and so as to be worked from right to left. Put the needle in straight, at right angles to the work. Do not overcast around the corner. The only place where a new thread can be used is just after the overcasting is finished. Hold the buttonhole with the bar toward the right hand. With the thread between the middle fingers, throw back the thread with the little finger. Put the needle into the buttonhole, bringing it out on side nearest the sewer. Draw it halfway through just below the line of the overcasting, take hold of the thread near enough to the needle to take the double thickness of thread, and with the right hand, going from right to left, put the two threads under the point of the needle, and pull the needle through. Give a little jerk to the thread, first toward the sewer, then in the opposite direction and toward the buttonhole. The next stitch is done in the same way, two threads further on. Every stitch must be exactly the same depth, and cover the overcasting. Use a thread of the goods as a guide for the depth of the stitches. Round the corner carefully. Keep the stitches together in the cut, and separate on the outside in shape like a fan.

It usually takes about five stitches to turn the end. Turn and work the other side to the bar. The bar is used to strengthen the buttonhole. To work it, put the needle in the cut and bring it out on the right hand end, and outside of the bar. Hold the buttonhole across the finger with the bar end furthest from the sewer. With the right hand bring the thread down, making a loop held with the thumb of the left hand. Put the needle in at the outside of the bar, bringing it through inside the loop. The bar should be far enough out so as just to meet the sewing on the buttonhole. In passing the cut, work into it. The ends of the bar should be on a line with the outside of the buttonhole stitches. When finished put the needle through to the wrong side, carrying the thread under three or four of the other threads.

If the buttonhole has been carefully handled, when finished it will be a straight slit, the edges just meeting, and it will feel as firm as a piece of wire.

In order to facilitate the learning of this somewhat difficult stitch, it is suggested that, before making a regular buttonhole, the scholar sew around an imaginary opening. Thus, being saved the management of the raw edge, she can give her entire attention to the stitch. The buttonhole can be designated by drawing with a pencil a line half-an-inch long, and parallel with the thread of the goods; or mark it by making a scratch with the needle. This mark is then to be sewed around exactly as with the

real buttonhole. Two or three of these can be made if necessary, until the child has gotten some idea of the stitch. It can also be practised on a folded edge of muslin.

SEWING ON A BUTTON.

In sewing on buttons with four holes, the sewing should form a square on the wrong side, and a cross on the button. Use a knot and double thread. If possible, first put the needle through only one thickness of the goods. If this is impossible, begin on the right side, so that the knot will be hidden by the button. Bring the needle through to the wrong side of the goods and then up through a hole in the button. Put it back through the diagonally opposite hole. Sew not less than three times in each hole. The thread should never be pulled very tight except in wrapping. After the last stitch, bring the needle through the goods up under the button. Wrap the thread around under the button three times. This is done to protect the stitches, and to make room for the buttonhole to lie under the button. To fasten, bring through again to the wrong side, take up four or five threads, with a portion of the goods, then cut the thread close. Another way to fasten the thread is to draw the needle two or three times straight through the wrapping between the button and the material.

GUSSET.

Articles needed.—No. 9 Needle, No. 60 White thread, White muslin (Pride of the West), 4 x 5 inches, and 2 x 2 inches.

THE larger piece of muslin should be folded through the centre lengthwise, then creased, and torn about an inch and a half, following the crease. Hem the opening with the narrowest possible hem, rolling

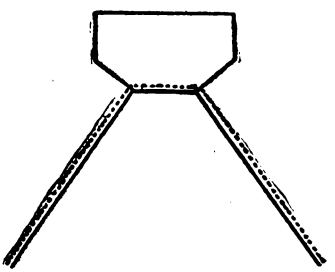


Fig. 8.—Gusset—inside.

the hem at the point so as to leave no sign of a raw edge. Then hem around the entire patch keeping the hem narrow.

The small piece for the gusset should be cut diagonally so as to make two triangles. Of course, only one of these pieces will be required. Make a very narrow turn on the two straight sides, the other being left raw. Then take the point where the two turns meet, and tack it to the point of the opening, the right side of the gusset, against the right side of the patch.

This tacking is to be ripped out later. Overhand one side of the gusset to the side of the opening for three quarters of an inch. Overhand the other side the same, being sure to begin at the point, and that both sides are sewed for exactly the same distance. Turn the gusset over on the wrong side as far as the overhanding will allow, which should be just half its entire length, allowing for a turn on the raw edge. Cut off the sharp corners to leave a straight edge of about an eighth of an inch. Rip out the tacking that

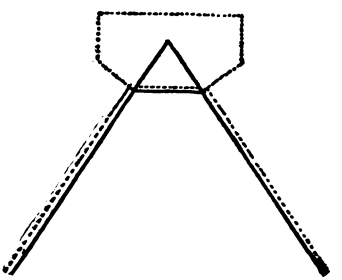


Fig. 9.—Gusset—outside.

was put in the point of the gusset before starting. Turn the raw edge of the gusset for hemming, tacking or pinning the middle to hold it in place. This tacking is also to come out. Hem the gusset to the patch. Stitch very finely across the folded bias edge at the top of the gusset, making it as close to the edge as possible.

For beauty, a gusset should be made as small as possible, and if the scholar is capable of handling a small piece, the square for the gusset may be less than two inches.

A gusset is used to strengthen the end of an opened seam, where there is likely to be more or less strain. The folded edge being on the bias it is impossible to tear it.

HERRINGBONE.

(*Also called Catchstitch.*)

Articles needed.—No. 8 Needle, No. 50 White thread, White flannel, 6 x 6 inches.

HAVE the child tear off a piece of flannel the proper size, then tear this through the middle and sew the pieces together with the ordinary backstitch about a

Fig. 10.—Herringbone.

quarter of an inch from the edge. Open the seam and press it as flat as possible.

To herringbone the seam use a knotted thread. Begin at the left by putting the needle under the edge of the seam, and drawing it through to the top. The knot is concealed under the seam. Take a short running stitch on one side of the seam near the edge, and then across to the other side, each time advancing a little to the right. By beginning to sew at the left, the thread is crossed at each stitch. This is, of course, the wrong side of the patch. On the right side is a double line of running stitches, as nearly as possible

invisible. Herringbone should always be perfectly even.

Hem one end with a hem one inch wide, basting it with fine stitches. Baste near the edge because flannel creeps away, and will make the hem crooked. The hem is finished like the seam, but with finer herringboning to make it firmer. The sewing should catch the edge of the hem, but not extend beyond it. When finished, draw out the bastings.

Herringbone is sometimes called catchstitch.

CHAINSTITCH AND FEATHERSTITCH.

Articles needed.—No. 7 Needle, No. 30 White crochet cotton, Berkley cambric, 6½ x 6½ inches.

FOLD and baste a three quarter of an inch hem all around the square of cambric. Mitre the corners, and neatly hem down the diagonal fold from the top of the hem to the corner of the patch. On one side of the patch the hem is to be chainstitched with the crochet cotton. Begin with a knot. Concealing the knot under the hem, bring the needle through at the point of the hem farthest from the sewer. This stitch is worked on the right side and toward the sewer. The work is held in the left hand over the first finger, and kept in place with the thumb and second finger. The needle being drawn through for the first stitch, hold the thread firmly under the left thumb, and take a small stitch, about one-sixteenth of an inch long, a

thread or two to the right of the point where the needle came out. This stitch should slant slightly to the left so that it will come out directly below where the last stitch came out, the needle being brought over the thread held under the left thumb. This forms the chain. Draw the thread firmly, but not too tight. Take the other stitches in exactly the same manner, being careful to put the needle within the upper loop each time. As the needle goes in for each stitch it should just catch the edge of the hem underneath. Every stitch must go entirely through the goods.

On the opposite hem a single featherstitch is worked. This is on the same principle as the chainstitch, but the stitches are taken alternately on each side of the central line.

Begin in the same way as for the chainstitch, but instead of slanting the side stitch, make it perpendicular. The second stitch is taken a thread or two to the left of the central line, and in order to form the loop the thread has to be thrown around from right to left toward the sewer, and then held under the left thumb. The needle is then brought out inside of the loop. The third stitch is again to the right, and so continue, alternating each time from right to left.

On the third side of the patch a double featherstitch is worked. The manner of taking the stitch is the same, but two stitches are taken on each side instead of one, the second being a trifle lower than the first. The stitches also slant slightly. When crossing to the other side, the first stitch is taken on a

line with the bottom of the upper stitch on the other side.

On the fourth side of the patch there is to be a triple featherstitch. This is the same as the double, only that a third stitch is added. The top stitch for the other side, however, is taken on a line with the

Fig. 11.
Single Featherstitch.

Fig. 12.
Double Featherstitch.

Fig. 13.
Triple Featherstitch.

bottom of the last stitch. When the patch is finished, rip out the bastings.

The beauty of featherstitching consists in its being perfectly even and regular. It should also be compact and not straggling.

This stitch is capable of a multitude of variations.

CUTTING AND BASTING AN APRON.

Always cut from the large piece of the goods, having the length of the garment run with the warp. A band is always cut with the warp, never across the goods. If possible always cut on a flat surface, never on anything uneven and soft like a bed. Make each cut as long as the scissors will allow. When a straight edge is desired the muslin should be torn.

To cut the apron, have the scholar measure for herself the length and width that she desires. Allow two inches on the length for the hem, and what will be taken up in sewing on the band. On the width allow half an inch for the two side hems. Measure for the bib, and here also allow two inches on the length, and half an inch on the width. To slope the sides, fold the bib double, lengthwise, and cut about one and a half inches from the bottom, sloping off to nothing at the top. For the band measure the length desired, allowing one inch for the lap for the button and buttonhole. Cut two pieces this length, each about one and a half inches wide.

The hem at the bottom of the apron, and at the top of the bib, should be one inch and a quarter wide. The side hems should be as narrow as possible. To baste use the uneven basting stitch. Take upon the needle two stitches at a time, each stitch, and the space between, being about a quarter of an inch long, then skip a space equal to these two stitches including the space.

On the bottom hem of the apron, and the top hem of the bib, leave enough unbasted at each end to allow the sewing of the side hems.

The apron is introduced at this point to furnish a little variety. This simple pattern has been chosen, because the scholar is not yet ready for anything more complicated. If desired, this class can be entirely omitted.

MAKING AN APRON.

As the apron is already prepared, even to the basting, the sewing is at once begun. First sew the two side hems. Take about two, but not more than three, threads for each stitch. When the two hems are finished, fold the bottom hems. Overhand the ends and then hem them. While crossing the side hem, be sure that each stitch goes entirely through both hems. The other corner is done in the same way. Next hem the bib. With a backstitch sew the seam at the top of the band, taking in the bib at the proper place. Gather the apron neatly, stroking the gathers. With the backstitch sew the apron on the band. Turn in and baste the lower side of the band that remains on either side of the apron. This, and the two ends, are overhanded. Sew on the button and make the buttonhole. Carefully rip out every basting.

This is the first garment made; all other work has been done on small patches. Nevertheless the same

standard should be maintained, and the teacher should encourage the scholar to take just as much care with a long hem or seam, as she did with short ones. The last stitches must be as fine and as regular as the first, otherwise the whole work will be marred.

THIRD GRADE.

STOCKING DARNING.

Articles needed.—No. 8 Needle, Mouliné Doublé No. 2, Stocking or stockinet.

To prepare the patch, the scholar should cut from the stocking an all-around strip about three inches wide. Fold one thickness of this twice, forming a right angle, then cut a very small hole, which should be about midway between the raw edges. Fray this hole with the scissors. Hold the patch between the first and second fingers of the left hand, wrong side up, stretching it slightly. It is sometimes said that a stocking should be darned on the right side, because the lumps hurt the skin. There should be no lumps. Begin without a knot, and at a distance from the hole to allow three or four rows of stitching outside of it. The lines of stitching should be of uneven lengths so as to avoid having the strain on a single thread of the goods.

A very strong and neat looking darn is made by increasing the height of the lines of stitching for three rows, then decreasing, so as to have every third row high, and every third one low. See Fig. 14.

Take on the needle one thread of the stocking, then skip three, and in returning take up the middle of the three threads skipped. At the beginning and end of each row of stitching leave a small loop to allow for shrinkage when the garment is washed. Outside of the hole the stitches should not show on the right side. All the frayed edges should be kept on the wrong side by putting the needle under. In crossing the hole take up and pass over the threads alternately, reversing the order when returning. To begin a new thread cut the old one at the end of a line and begin again.

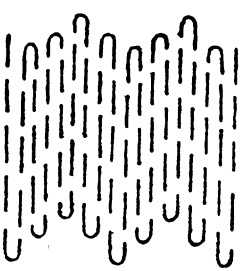


Fig. 14.—Wave darn.

Darning introduces no new stitch, but it is advanced work because of the amount of judgment required.

The aim of both darning and patching is to supply a part of the material where it is missing, or to strengthen weak places. The darning thread should be soft and yielding, and as nearly like the material as possible. The needle should be as fine as will carry the thread. Whenever possible, ravellings of the goods should be used.

In darning, or inserting a patch, always avoid having straight edges where a single thread must bear all the strain. It is also a wise precaution to strengthen weak places, and not to wait for a hole.

DARNING ON CASHMERE.

Articles needed.—No. 8 Needle, Mouliné Doublé No. 2, Cashmere not too loosely woven, 6 x 4 inches.

HERE the principle is exactly the same as in stocking darning, only that no loops are left for shrinkage, as the material is not to be washed.

From the large piece of goods the scholar cuts a piece the desired size. The first three holes are darned with a very soft fine darning-cotton, or coarser cotton may be split. White is used on the colored cashmere in order to show the work. Explain to the scholar that otherwise it is always the aim to have the thread as near as possible to the color and texture of the material.

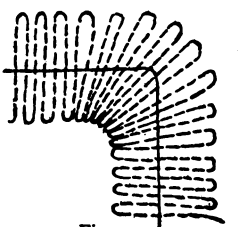


Fig. 15.
Darn on three-cornered tear.

The first tear is a three-cornered, or trap-door shape. To make this, fold the cashmere diagonally, and then cut into the goods not more than a quarter of an inch, following a thread of the material. Before darning, catch the point lightly with a stitch or two to hold it in place. These stitches are afterwards to be ripped out. Make the darn no larger than is necessary for strength, and exercise great care in rounding the corners, spreading the stitches at the outside, and crowding a little on the inside. See Fig. 15.

This darn is worked on the wrong side.

The second darn is made on a diagonal cut, half an inch in length, and like the first darn it is worked on the wrong side. Before darning it should be lightly caught together, these stitches being afterward ripped out. The darning should run with the warf and woof. See Fig. 16.

The third darn is on a worn place having a patch laid under. To prepare this, cut in the cashmere the

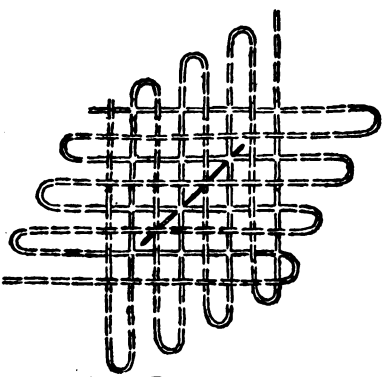


Fig. 16.—Darn on cross cut.

smallest possible hole, and then fray it a great deal. Take a piece of cashmere that will entirely cover the worn place, and baste it on the wrong side with small stitches far apart, and not showing on the right side if avoidable. It is now ready for the darning, which must extend over the whole worn spot, the under patch being darned in for strength. This darn is worked on the right side.

The fourth darn is on a cut along the thread of the

goods, half an inch long, and is darned with the ravellings of the cashmere, using the warp threads. It is worked on the right side.

Should the darn draw a little, but be otherwise perfect, it may be pressed with a hot iron, a damp cloth being laid under the darn.

If the darned cashmere patch is to be kept, it should be neatly trimmed, and worked around with white embroidery silk, using the embroidery button-hole stitch,* or fringed out half an inch all around.

DARNED PATCH.

Articles needed.—No. 8 Needle, Thin cheviot, 4 x 4 inches, and 1½ x 1½ inches, Pieces of stiff paper.

FIND the centre in the same way as on other patches. Cut a small hole about half an inch in diameter. Enlarge this very carefully until it is a perfectly square hole, one and a half, by one and a half inches. Be sure that the corners are well shaped. Baste the cheviot wrong side up on a stiff piece of paper, so that the bastings shall not interfere with the darning. Take the small piece of cheviot, and baste it on the paper, fitting it into the hole of the large piece. It should fit closely and evenly. Be sure that the grain of the goods runs the same way in both pieces. If there is a pattern, or a stripe, it should be matched.

Darn this in the same way that the three-cornered tear was darned on the cashmere. The darn should

* See page 120.

extend a quarter of an inch beyond the edges in both directions. Use the ravellings of the cheviot, taking the warp threads. Be careful not to catch the paper in the darning. When the work is finished rip off the paper.

The cheviot for this patch should be thin, but closely woven. A brown or gray without a pattern is the best to use. Tell the scholar how badly such a hole in a garment would look if darned like a stocking. This darn, if properly done, should be almost invisible, and also firm and durable.

PATCHING.

HEMMED PATCH.

Articles needed.—No. 9 Needle, No. 60 White thread, Striped calico or cambric, 6 x 6 inches.

After tearing a piece of cambric the proper size, the child should double it, crease the fold, then double and crease it the other way, and thus find the middle of the patch where the two creases cross. Measure from this central point half an inch in the four directions, following the creases. With the sharp point of the scissors puncture a hole in the goods to mark each measurement, and when all are measured, carefully cut from these holes until in a line with the the hole on the next side. As it is very necessary to have this square neatly and accurately cut, it would be well to make a little start from each of the points marked by the scissors, cutting first from one then

from the other, until they meet. If the scholar is at all slow to catch the idea, it can be worked out on a blackboard, or with pencil and paper, by simply making a dot to represent the centre, and then explaining the process to her step by step. No matter how much time it may take, the child should cut out this square entirely by herself. See if

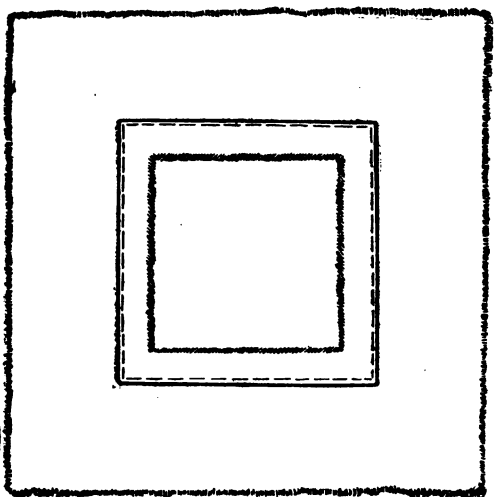


Fig. 17.—Hemmed Patch—wrong side.

she thinks this piece can be sewed in again where it has been cut out. She will readily see that it is too small. Therefore have her cut from another piece of the material, a square half an inch wider on all sides, and with the stripes in such position that, when this is ready to be sewed in, the stripes will exactly match the stripes of the patch. Now on the

large square make a diagonal cut in the material at each corner of the hole, one eighth of an inch deep. It is of the utmost importance to have these cuts exactly diagonal and of the same length, as will be readily seen as the work progresses. Lay the piece to be inserted on the wrong side of the patch, with its right side toward the hole. Hold up to the light

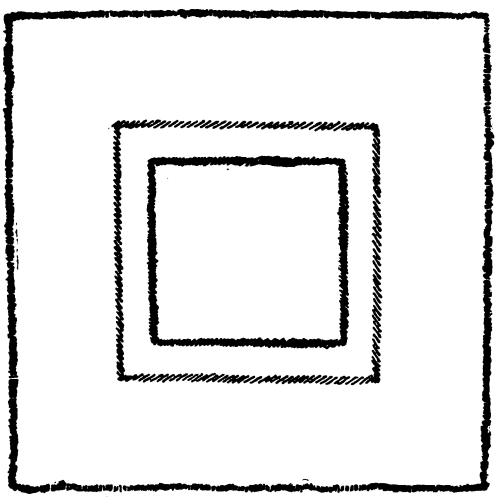


Fig. 18.—Hemmed Patch—right side.

to see that it laps over the hole the same distance on all sides. The stripes of the patch should correspond exactly with the stripes of the larger piece. Now baste on the wrong side, as near as possible to the edge of the inserted patch. Turn the work over to the right side, fold in the edges as deep as the diagonal cuts at the corners, and hem neatly and

carefully, particularly at the corners. Rip out the bastings and hem the edges on the wrong side, taking small even stitches, as they will show on the right side. If necessary, the edges on the wrong side may be trimmed before hemming. Hold up to the light to see that the hem is regular all around.

In patching the entire difficulty is in placing the patch, for which considerable manual skill is required. The grain of the patch should always run with the grain of the materials patched, and if the fabric has a nap, as flannel, or some other materials, this also has to be considered.

OVERHANDED PATCH.

Articles needed.—No. 8 Needle, Thin cheviot, 4 x 4 and 1¼ x 1½ inches, Pieces of stiff paper.

FIND the centre, and cut a perfectly round hole half an inch in diameter. The edges of the hole should be clipped an eighth of an inch deep so as to turn back easily. Baste the cheviot wrong side up, on a stiff piece of paper. Trim the small square of cheviot at the corners, to make it perfectly round. The edge of this has to be clipped, so as to turn back, and lap. The small piece has to be fitted into the hole and basted to the paper. The grain of both pieces must match. The patch is to be overhanded in, after which the paper is ripped off. The warp ravellings of the cheviot should be used for the sewing, although for this patch silk or thread may be substituted. The ravellings are preferable.

HEMSTITCHING.

Articles needed.—No. 80 Thread, No. 10 Needle, Berkeley cambric, 7½ x 4 inches.

FOR this patch the length of the piece should be with the warp of the cambric.

To prepare for the hemstitching, draw six threads across the narrow way of the patch at the line which will be at the top of an inch hem, allowing also for the first narrow turn. When carefully measured begin to draw the threads. This may at first appear difficult to the scholar, but if the first thread is carefully drawn from edge to edge the other threads will pull easily, provided each is entirely drawn before another is started. The threads are picked out with the aid of a needle.

After the threads are drawn, make the narrowest possible hem on the two long sides of the patch, and at the end which is not to be hemstitched make a plain hem one quarter of an inch wide.

A scholar who has advanced as far as hemstitching, should be able to make the plain hem absolutely perfect. This should be required before she is allowed to proceed.

When this is finished, turn and baste the wide hem so that the top of it lies along the lower edge of the space left by the drawn threads. Overhand the ends of the hem before beginning the hemstitching, as the hem is thus held firmer.

For hemstitching the thread should be knotted, the knot being concealed under the hem. The hem should be held as for ordinary hemming, and sewed from right to left. The number of threads to be taken up with each stitch should be the same as the number drawn. Having begun by drawing the thread through at the right hand end of the hem, bring the thread around from right to left toward the sewer to form a loop, which is held under the left thumb. Take on the needle six threads, bringing the

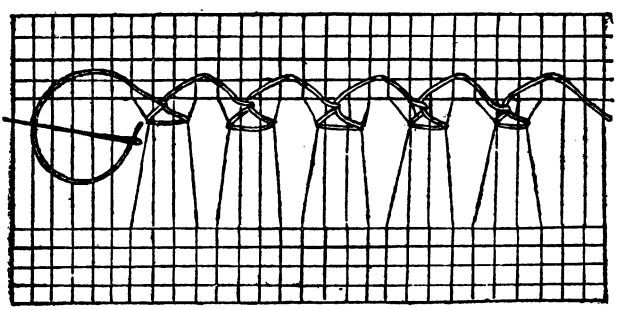


Fig. 19.—Hemstitching.

needle inside the sewing thread which is held by the left thumb. Pull the loop thus made close up to the edge of the hem, and holding the thread firmly under the left thumb, take a small hemming stitch in the edge of the hem to the left of the six threads just taken up. Do not let this stitch go through to the right side. Take up the next six threads and continue as before. The thread is fastened the same as in plain hemming, taking two or three over and over stitches in the edge of the hem. To start a new

thread, slip the needle under the hem to conceal the knot, and go back two or three stitches, sewing them over like new stitches. This prevents any possibility of the old thread ravelling out.

Hemstitching can be done in various ways, but this has been chosen because it makes one less exception to the general rule of sewing from right to left, and the work is held as the scholar was taught to hold it for plain hemming. It will therefore be found easier for her to do the hemstitching this way, and the result is the same.

TUCKING.

The tucking is done on the hemstitched patch, the same needle and thread being used.

To prepare the tucks, a card or piece of stiff paper should be notched to indicate the distances from the top of the hem to the line where the sewing will be on the under side of the tuck, and from that to the line where the tuck is to be folded. This same gauge will do for the other tucks, measuring from the sewing of the last tuck instead of from the top of the hem. The tucks are to be one quarter of an inch deep, and should be an eighth of an inch apart when finished.

A tuck covers a space equal to its own depth, and this must be added to the distance desired between the tucks, when measuring from the top of the hem, or the last tuck, to the under line of sewing on the

next tuck. The depth of the tuck is then measured from that to the line of the folding. Having measured the tuck, double the goods at the line marked for the crease, and baste through the two thicknesses on the line indicated for the sewing. It is basted as it is measured, the guage being kept a little in advance of the sewing. The basting is done on the wrong, or under side of the tuck, and must be very straight, as it is to act as a guide for the sewing, which is done on the upper side.

The running stitch is used for tucking, beginning with a knot, which is concealed under the tuck. To finish off a thread do the same as with other running, by taking up a thread of the goods immediately under the last stitch, which is also taken up. Repeat three times in exactly the same place. This should not show on the right side.

As a general rule, tucks should be half their own distance apart. Tucks are usually for ornament, but are often made in order that the garment may be lengthened if required.

WHIPPING.

The whipped ruffle should be made of the same cambric, and sewed with the same numbers of needle and thread as the tucked, hemstitched, patch, to which it is to be sewed. The ruffle should be cut by a thread, instead of being torn, and should be handled very carefully. If the edge becomes limp it is almost impos-

sible to roll it. The ruffle should be six inches long, which is once and a half the length of the patch on which it will be sewed. This allows for gathering. It should be one and a quarter inches deep, which will make a one inch ruffle, allowing an eighth for the hem, and the same for the roll. No more than this should be taken for either, and less if possible. After the ruffle is hemmed on the bottom and on the sides, the halves and quarters should be marked with a cross-stitch as for any gathered piece. It can then be rolled. The top edge of the ruffle should be rolled over on the wrong side, and the roll or curl should not

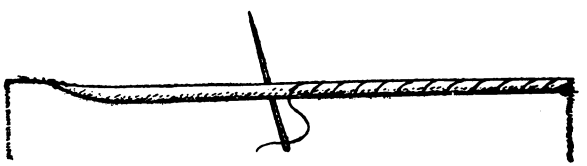


Fig. 20.—Whipping.

be at all flat like a hem, but perfectly round like a piece of fine twine. It is rolled by holding the edge of the goods between the thumb and first finger of the left hand, and rubbing the thumb against the finger with a slight downward motion. It is sewed with a single thread, and a stitch somewhat similar to hemming, the needle being held at the same angle, but inserted under the roll and brought out at the top. The stitches should be about eight threads apart. When the scholar acquires enough skill, several stitches may be taken upon the needle at a time, the goods always being rolled a little in advance of the sewing. Every

few stitches the thread can be carefully drawn up, and the ruffle fulled as on a gathering thread. When finished, leave the end of the thread loose in case there is too much or too little length allowed. A whipped gather is not stroked. To sew on the ruffle pin the middle to the middle of the patch. The quarter should also be pinned when the distance is greater. Holding the right side of the ruffle against the right side of the patch, the patch being nearest to the sewer, overhand the ruffle to the band. It should be sewed from left to right so that the overhanding thread shall fall in line with the whipping thread, making it look like a single sewing.

Especially with whipping is it necessary to have the fingers scrupulously clean.

The cambric should be fine, but firm. The depth of the ruffle should be with the warp of the goods. The depth is a matter of taste, but one and a half times the length of the band should be allowed for the fullness. If it has to be pieced, it can be neatly joined with a French fell, before either the hemming or the whipping is begun.

GENERAL REMARKS ON GARMENTS.

WHETHER white or unbleached muslin is used, let there be no trimming except a tiny edging around the neck and sleeves of the nightdress. Featherstitching may be used to ornament the outline of the yoke, and may also be put on the hem of the drawers if desired. This work is intended to be educational in the broadest sense, and the children should be taught that a plain garment, neatly made, is to be perferred to cheap finery. For most of the children taught in sewing schools, fine trimmings are an impossibility on account of the expense. This caution might seem superfluous, were it not known that in some schools unbleached muslin garments are trimmed with showy, cheap cotton laces. It is argued that it pleases the children, but the object of this work is not to descend to their level, but to educate and train them to something higher.

In some schools, if the scholar is reliable, she is allowed to work on her garment at home. Only seams, hems, and work with which she is perfectly familiar is done, the difficult parts being kept for school, under the supervision of the teacher.

Every scholar should cut each of the garments in paper, but only one need be cut in muslin and made. It is not necessary for every child to make the three garments. In many respects the night dress is the best practice.

CUTTING PATTERNS BY MEASUREMENT.

GENERAL DIRECTIONS FOR CUTTING.

If a pattern is used, pin it on the muslin with fine pins. The black headed steel ones are very good, as they slip through the muslin easily, and do not tear the pattern. Not only should the pattern lie perfectly smooth, but also the muslin under it.

Never turn the pattern, but cut around it. Do not slip the hand under when cutting, or raise the pattern in any way, but have it lie perfectly flat on the table. Never cut on an uneven surface. Make each cut as long as the scissors will allow. If the pattern is notched, be sure to indicate the notches on the muslin.

Economy of material should also be taught in planning the pattern.

PATTERN FOR GORED SKIRT.

Articles needed.—White muslin (Pride of the West), Shears, Tape measure, Large table.

Cut the muslin into three equal lengths to fit the person. Allow three and a half inches for the hem. Fold one width lengthwise through the centre, and mark "front." Fold this double thickness into thirds, creasing it at the top only enough to mark the divisions. Unfold it, and laying it flat on the table,

fold the third at each end, sloping it down to nothing at the bottom. Crease this fold, open the muslin, and cut along the crease. Take the second width, fold it lengthwise through the centre, and mark it "back." Cut an opening down this middle crease about twelve inches deep. The third width should be folded lengthwise into thirds, creasing at the top and bottom, only enough to designate the divisions. Open the piece, lay it on the table, and fold diagonally from corner to corner, across the middle division. Crease, open, and cut along the crease. These two parts form the side breadths.

PATTERN FOR DRAWERS.

Articles needed.—Large sheets of brown paper, White muslin (Pride of the West), Shears, Tape measure and rule, Large table.

THE pattern is first cut in paper. The seams are allowed for, but not the hems. Do not count fractions less than half an inch.

Measure at the side the desired length. Two thirds of this is the length of the seat. Twice the length of the seat is the width of one leg at the waist. Measure for the width at the bottom of the leg.

Draw a dotted horizontal line for the width of one leg at the waist, and mark it at the left *A*, at the right *B*. Divide it in halves and mark the point *C*. From *C* draw a vertical line down the length measured

for the side; mark it *D.* Continue the dotted lines *A B* on each side three inches, mark the left *E*, the

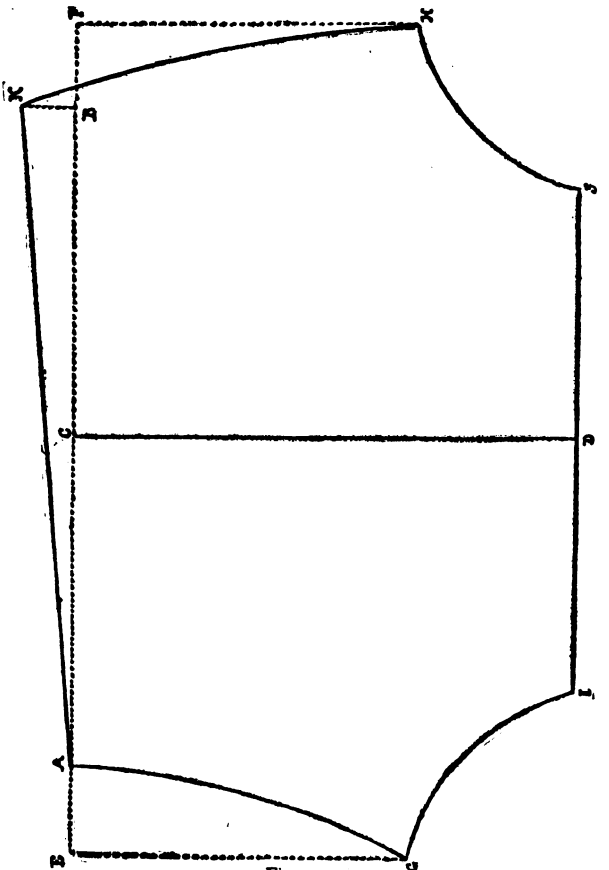


Fig. 21.

right *F.* From *E* draw a dotted vertical line down two thirds of *C D*, Mark it *G.* From *F* draw a

vertical dotted line drawn two thirds of *CD* and mark it *H*. From *D* draw a horizontal line out to right and left, each line being half the width desired for the bottom of the leg. Mark this line on the left *I;* and on the right *J*. Connect *GI*, with a line slightly curved inward. The same from *H* to *J*. Draw a line from *A* to *G* slightly curved in. At *B* erect a perpendicular two inches and mark it *K*. Connect *K* and *A* by a straight line. If preferred this line may be slightly curved down. Connect *K* and *H* with a line slightly curved outward.

This is one half of the drawers, the other leg is cut exactly the same. In cutting the muslin the desired width of hem should be turned before cutting, so that it will not be sloped too much. If not turned until after the cutting, it would not be wide enough. The drawers are to be opened at the side, therefore the band must be in two pieces. Allow for an inch band when finished, and an inch lap on both sides.

PATTERN FOR NIGHTDRESS.

Articles needed.—Large sheets of brown paper, White muslin (Pride of the West), Shears, Tape measure and rule, Large table.

THE pattern is first to be cut in paper. The measurements do not allow for the seams or hems. Do not count fractions less than half an inch.

Measure neck. Measure length of shoulder from bottom of collar to sleeve seam. Measure from arm-hole.

Neck of back yoke should be one third of entire neck measure. Draw a horizontal line to indicate the length of the neck on back yoke. From this line at each end measure down two inches and mark with dots. Draw a dotted horizontal line through these two dots, extending it beyond the upper line at both ends. From the end of the neck line measure length of shoulder, sloping the line until it meets the dotted line two inches below. If this line was not drawn long enough, it may be lengthened. From this point down the yoke should be one quarter the length of the armhole. This line should be curved in very slightly.*

Fig. 22.—Back Yoke.

For the neck on the front yoke, multiply by two the remaining two-thirds of the entire neck measure. Divide this by three (or, to be exact, by 3.1416) to find the diameter of the neck. Half of this will give the radius, or depth and width of neck for the front yoke. It is necessary to multiply by two, because the neck has been measured right around and is larger at the base, which the neck of the garment must fit.

Draw a dotted horizontal line the length of the radius. From the left end of this draw a dotted vertical line downward, the same length as the other line, and forming a right angle. From the ends of these two lines, draw a line slightly curved outward. Draw a dotted horizontal line two inches below the

* Double the muslin in cutting these curved lines so as to cut them together, and thus have them exactly alike.

other line, and extending beyond it to the right. From the end of the upper line, draw a line the length of shoulder, sloping it until it meets the dotted line drawn two inches below. This may be extended if it is not long enough. The depth of the yoke from this point is the same as on the back yoke, one quarter the length of the armhole. This line should be curved in very slightly. Draw a straight line down the same depth from the front of the neck. Both sides of the front yoke are the same.

For the skirt, cut the front and back the same as for an ordinary gored skirt. For the sides fold the muslin lengthwise into fifths, instead of thirds, and proceed as for the gored skirt, cutting diagonally across the middle division. This gives a little more fulness at the top than is needed for the skirt.

Fig. 23.—Front Yoke.

For the sleeves: measure for armhole, measure from highest point of shoulder to wrist, the arm hanging straight down. Measure from shoulder to elbow. Measure inside of arm from armhole to wrist.

Draw a dotted horizontal line one half the full length of arm. Mark it *A* on the left and *B* on the right. One quarter of the distance from *B*, mark *C*. From *C*, erect a dotted perpendicular line equal to half the distance between *A C;* mark it *D*. From *B* erect another perpendicular the same height; mark it *E*. From *C* draw a dotted vertical line down, the length of the whole sleeve, less the perpendicular *D C;* mark it *F*. From *B* draw another downward

vertical line, representing elbow length, less *E B;* mark it *G.* Join *G* and *F* by a line slightly curved outward. From *A* draw a dotted downward line, full length of inside of arm; mark it *H.* Join *H* to *F* with an oblique line. Draw a dotted horizontal line from *G* to *A H* and mark it *I.* The point of intersection with *C F* mark *J.* On *I J* the same distance from *I* as *J* is from *G,* make a mark and call it *K.*

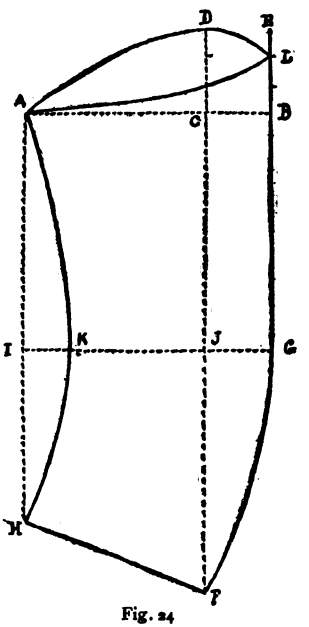


Fig. 24

Connect *A* and *H* with a curved line passing through *K.* Divide the distance from *E* to *B* into thirds, and mark the upper third, *L.* Divide *D C* into thirds, and mark the lower third *M.* Make a curve from *A* to *L,* passing through *D.* Make another curve from *A* to *L* passing through *M.*

With the upper curve, this pattern forms the outside of the sleeve. With the lower curve, it forms the under side. For a night dress it is not necessary to have any other difference between the upper and under parts. This sleeve is to be gathered in at the cuff. When cutting the night dress, allow for all the

seams, allow for an inch hem on the front edges of the yoke, also an inch to lap and a two-inch hem at the bottom of the skirt.

MAKING GARMENTS

MAKING A GORED SKIRT.

BASTE the breadths together. Remind the scholars of the rule that two bias edges should not be put together in a skirt, or it will stretch and sag. Therefore put the straight edges of the side gores, against the bias front breadth, and the two bias edges against the straight back breadth. The bias edges are of course longer than the straight ones. Impress upon the scholar that the unevenness should always be left at the bottom, when it can be cut off without altering the length of the skirt. Let her practice with small pieces of paper, showing the effect when the unevenness is cut off from the top. In this case something has to be sloped off the other breadths also, which makes the skirt shorter.

The seams should be run with an occasional back-stitch. To fold the hem the garment should be laid on a table, the top of the skirt nearest the sewer. This prevents the work from being dragged away by its own weight. When the hem is measured and basted it may be hemmed.

The opening at the top of the back should be

finished in the manner already learned on the hemming patch.*

The band when finished should be one inch wide, with a one inch lap at the back for the button and buttonhole.

The skirt should be overhanded to the band, with the gathers rather scant in front, and with more fullness in the back. Divide the gathers into halves and quarters, and with a pin or cross-stitch designate on the band where they are to be placed.

MAKING DRAWERS.

With a flat fell sew the under seam of each leg. In the same manner sew the middle seam which joins the legs. These seams should be basted. Hem the opening at the side, and finish with gussets. Sew the band on with a backstitch, and hem it down on the wrong side. Put a buttonhole in each end of both bands. Baste the hem at the bottom of each leg, and either hem or featherstitch them.

MAKING A NIGHTDRESS.

The yoke should be a double thickness of the muslin. For the shoulder seams make a French fell. Fold an inch hem on each side of the front. Hem the one which will be the left, or under side, when the

* See page 40.

garment is worn. The other side is to be feather-stitched.

Sew the shirt together with a French fell. Tear an opening down the middle of the front breadth about fifteen inches deep. Face what will be the left or under side when the garment is worn, with a facing one inch wide when finished. On the other side make an inch hem, and fold it over in the same manner as was learned on the hemming patch.* Make a two inch hem all around the bottom. Gather the shirt. Sew the shirt to the outside piece of the yoke with a backstitched seam. Turn it up, press the seam flat, baste down the under side of the yoke and hem. On the outside, along the bottom of the yoke, back and front, work a line of featherstitching.

The neck should be finished with a tiny ruffle of cambric, or simple embroidery, to be sloped in at the front. Begin to slope about an inch from the ends. Gather the ruffle, allowing once and a half the length of the neck for fullness. Lay the right side of the ruffle on the right side of the garment, and over that a bias facing half an inch wide, the raw edges of all three being held even. At an eighth of an inch from the edge, sew them all together with a back-stitch. Turn over the facing and the ruffle, press the seam flat and hem the facing down on the wrong side, making it as narrow as possible. On the right side work a line of featherstitching between

*See page 40.

the embroidery and the line of hemming on the facing.

The sleeves should now be sewed together with a French fell. At the cuff, gather the sleeve to the desired width. It is finished with a ruffle the same as the neck. For fullness allow once and a half the length of the cuff when gathered. The ruffle is joined with a French fell.

At the top of the upper part of the sleeve make two lines of running stitches, the first, a quarter of an inch, and the second, half an inch below the top edge. This is to gather the fullness. Sew the sleeve in with a French fell, putting the extra fullness on the shoulder. Care will be needed to have the sleeve rightly placed. Finish the nightdress with small buttons and buttonholes.

SUPPLEMENTARY COURSE, PREPARATORY TO DRESSMAKING.

GENERAL REMARKS.

In these few lessons the scholar learns some of the essential things pertaining to dressmaking, which are not included in a course of plain sewing. Cutting and fitting and operating a machine must be learned before a girl can be entitled to the name of dressmaker. But with the rudiments here taught, a bright girl should have little difficulty in acquiring the finishing touches.

In practical dressmaking, rapidity is almost as essential as skill. This comes only with practice and is no excuse for poor work.

OVERHANDED GATHERING.

Articles needed.—No. 8 and 9 Needles, No. 40 and 60 White thread, Unbleached muslin, 8 x 4 inches and 2½ x 1½ inches.

Hem the two short sides of the long piece of muslin, with a tiny hem. On one of the long sides make a hem three quarters of an inch wide.

Overcast the remaining raw edge, and turn it down a quarter of an inch on the wrong side. This is all done with the finer thread and needle. With the coarse thread and needle gather the patch from the wrong side, sewing through the double thickness where the muslin has been turned down. The rule for overhanded gathering is to take up one quarter of of what is left down. Take up three threads of the goods, and skip twelve. Stroke the gathers in the same manner as on the other gathering patch,* and prepare the band in the same way, and overhand the gathers to it. Hold the right side of the gathered piece against the right side of the band, with the band next to the sewer. Take a stitch in every gather, putting the needle in at the fold next to the band. Use a double thread, and fasten securely with an over and over stitch.

This kind of gathering is used when there is too much fullness to be put between the folds of the band. Explain, that on account of the extra fullness in the back of skirts, dresses are usually sewed on in this way.

BINDING WITH BRAID.

Articles needed.—No. 9 Needle, No. 50 Black thread, Black skirt braid, Black serge, 6 x 3 inches, Waist lining, 6 x 3 inches.

TURN in the edges of both serge and lining on the two short sides. Baste them together neatly with

* See page 58.

black thread, using a small even basting stitch. If necessary, trim the remaining raw edges. Knot the thread and take a few running stitches across the end of the braid to keep it from spreading. Lay the braid on the right side of the goods with the length of the patch, and a trifle less than half the width of the braid from one of the unbasted edges. Allow a little at the end to turn in. Run it thus with an occasional backstitch.

In the middle of the patch, the braid is to be cut in order to illustrate the manner of joining. Before joining take a few running stitches across each end to prevent it from spreading, then overhand the edges together. Continue sewing the braid on the serge, and fasten the thread securely at the end after taking the usual running stitches across and allowing a trifle to turn in. Turn the braid over, press it down as flat as possible and hem it to the wrong side of the patch. Be careful that the stitches do not go through to the right side. Overhand or blindstitch the ends.

Take another piece of braid, turn in a little at the end, and sew it along the remaining raw edge of the patch on the right side, holding it so that the edge of the braid is even with the edge of the goods. Fasten securely. Turn the braid over, until only a tiny cord of it is visible on the right side, and then hem it to the lining on the wrong side, being careful to have the cordlike edge quite even in size. Overhand the ends.

HOOKS AND EYES.

Articles needed.—No. 9 Needles, No. 50 Thread, Waist lining, 3 x 2½ inches, Hooks and eyes.

TURN in a quarter of an inch on the two short sides, and half an inch on one of the remaining sides. On this last fold sew two hooks and two eyes alternately, half an inch apart, and the same distance from the ends.

Place the eyes so that they are just visible beyond the edge of the patch. The hooks should be sewed the same distance inside the edge, as the eyes extend beyond it. Sew with over and over stitches, first through one loop of the hook or eye, then through the other. Slipping the needle between the folds of the material, with two or three stitches fasten the hook near the bend. The eyes are fastened in the same way just beyond the two loops through which they have been sewed. This helps to hold both hooks and eyes in place.

Take another piece of the lining, turn it in half an inch on one side, lay it on the first patch, slipping it under the bend of the loops, and hem it down as close to the edge as the loops will allow. Turn in the remaining three sides of both pieces of the lining, and with a small even stitch baste them together.

Make another piece exactly the same, but reverse the order of the hooks and eyes, so that the two pieces may be hooked together when finished.

Show the scholar how reversing the hooks and eyes prevents either side from becoming unfastened. This method is often employed on dresses.

BUTTON LOOPS.

Articles needed.—No. 9 Needle, No. 70 White thread, Berkley cambric, 3½ x 4 inches.

FOLD the cambric through the middle lengthwise, turn in all the edges, and neatly baste with a small even basting stitch. Three button loops are to be made at equal distances from each other, and from the ends of the patch. Make a tiny knot in the end of the thread which should be long enough to work the entire loop. Working from the right side of the patch, take the smallest possible stitch through the double thickness of the cambric, parallel with the folded edge of the patch, and about an eighth of an inch from it. Draw the thread tight, and take another stitch in exactly the same place. This time draw the thread only until a loop is left large enough to slip a pencil through. Holding the pencil in the loop, take a third stitch so as to make a double loop over the pencil. Fasten the thread by a tiny stitch where the others were taken, and without breaking the thread, continue to work the loop. The double-thread foundation-loop is sewed over with the embroidery buttonhole stitch. This is the same as has been used on the bar of the buttonhole. Sew

from left to right. Hold the loop under the left thumb, and push the stitches closely together as each one is made. When finished, fasten with an over and over stitch at the base of the loop, in such a way that it will not show.

Explain to the scholar that in dressmaking, similar loops are used for hooks.

BINDING SEAMS.

Articles needed.—No. 9 Needle, Black sewing silk, A, Black serge, 4½ x 6 inches, Waist lining, 4½ x 6 inches, Black binding ribbon.

CUT both serge and lining across the length of the pieces, and two inches from one of the short sides. This will make pieces four and a half by two inches, and four and a half by four inches. Take the large pieces of serge and lining, and with white thread, baste them together. On the short sides turn in both edges, and with black sewing silk baste them together with a small even basting stitch. On one of the long sides make a hem one and a quarter inches wide. Take the hemming stitches through the lining only, so that they will not show on the right side. Baste the smaller pieces of serge and lining together with white thread. Turn in the two short sides and one long side, and with black silk, baste together with the small even basting stitch. Leave unbasted the side which will come next to the raw edge of the other part of the patch. Join the

two parts, making the seam about three quarters of an inch from the edge. Use a backstitch.

Before opening the seam make a cut into the edge at equal distances from the ends, and half an inch deep. Trim the edges in scallops, going as deep as the cut. Explain that waist seams are always cut in this way. Open the seam and press it flat. The seams are now to be bound. First turn in about a quarter of an inch of the ribbon, then lay it over the edge of the seam, being careful to keep it the same depth on both sides. As it is placed, sew with small running stitches which should catch in the edges of the ribbon on both sides. The stitches should not be more than an eighth of an inch long. Use black sewing silk. The curves should be neatly rounded, fulling the ribbon on the inside if necessary.

Tell the children that dress seams are sometimes overcast.

BONECASING.

Articles needed.—No. 9 Needle, Black sewing silk, A, Black bonecasing.

THE bonecasing is put on the patch used in the preceding class.

The seam being opened and pressed flat, the bonecasing is to be sewed on so that the middle shall be directly over the seam. Before putting it on the seam turn in an eighth of an inch on the end, making a second turn of three quarters of an inch. Tack

the corners of this hem, and overcast one side. Leave the other side open. This loop is to slip the bone in, and also prevents the top of the bone from wearing a hole in the dress.

Holding the patch wrong side up, the hemmed edge away from the sewer, lay the bonecasing on the seam, with the end on which the loop has just been made half an inch from the right hand edge of the patch. With white thread baste the bonecasing on the seam, sewing down the middle, and entirely through the goods. The scholar is allowed to baste, because she is not yet experienced enough to make it perfectly straight without. Explain to her that in dress-making bonecasing is never basted.

Baste to the end of the seam, and turn in the edge. Begin the sewing at the bottom of the loop previously made. Use a very small running stitch and sew only through the goods which has been turned back from the seam. Never, under any circumstances, catch even the lining of the main garment. Both sides of the bonecasing are sewed as far as the large loop, which is left loose, the other end is sewed down.

Explain to the children that in making dress waists the bonecasing is put on a little full, so that the bone may bend to the figure.

BUTTONHOLE ON SERGE.

Articles needed.—No. 8 Needle, Black buttonhole twist, D.

THREE buttonholes are made on the patch used in the last two classes. They are cut in the wide hem, at equal distances from each other and from the ends.

The buttonholes should be three-quarters of an inch long and at equal distances from the outside and inside edges of the hem. Cut very carefully, and overcast closely, taking in the four thicknesses of serge and lining. The buttonhole is made exactly the same as the one on muslin in a former class.* The object of repeating the work on serge is to teach the management of a fourfold edge.

* See page 61.

SUPPLEMENTARY COURSE, PREPARATORY TO EMBROIDERY.

GENERAL REMARKS.

THIS course is designed for those who wish to become practical workers on embroidery. It gives only the first steps of the art, but should fit the scholar to take up more difficult work, and to advance in it quite rapidly.

Even in this short Course something more should be accomplished than simply to teach a few stitches. The taste may be cultivated, and the eye trained to appreciate beauty, both in form and color.

For the first four lessons the work is done on crash. This should be fine, and very evenly and firmly woven. Gray crash should be used for the Kensington Outline, but for the other three classes white crash is preferable. For the damask embroidery double damask should be used.

Whenever possible a plain sewing needle is to be preferred to the embroidery needle, which makes a larger hole in the material. Always avoid knotting the silk or thread if it can be fastened securely in some other way.

KENSINGTON OUTLINE.

Articles needed.—No. 7 Embroidery needle, No. 5 Rope silk, red, Gray crash, 11 x 6 inches.

THIS stitch is worked from left to right, and is begun without a knot. Fasten the silk by taking two or three running stitches on the line of the pattern, to within three threads of the point where the work is to be begun. Take up these three

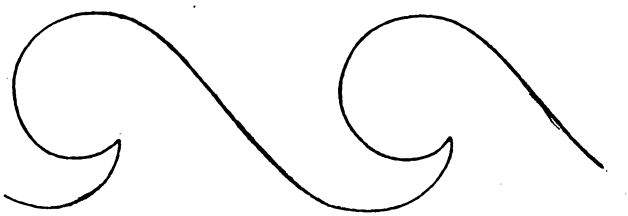


Fig. 25.—Design for Kensington Outline.

threads, go back six threads beyond the stitch to the right, take up three, and so continue. To finish, sew back on the wrong side with a few running stitches underneath the pattern.

To trace the design have a pattern of tin, wood or cardboard. The straight edge of the pattern should be the line which is next to the lower or pointed ends of the design. The other straight line may be drawn on the crash after the pattern has been traced. Make the line the same distance from the top of the scroll, as the lower line is from the bottom of it. Be careful to have the design in the middle of the patch.

The scroll should be three inches deep, and the lines half an inch from it, making the entire pattern four inches deep, and nine inches long.

DARNING STITCH.

Articles needed.—No. 7 Plain sewing needle, Wash silk, sage green, White crash, 6 x 6 inches.

BEGIN on the outside of the circle. The stitch is the ordinary running stitch begun with a knot. On

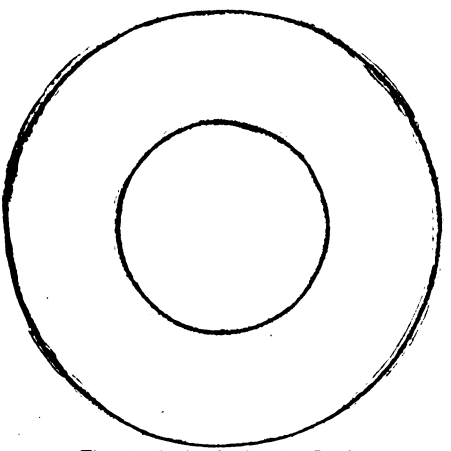


Fig. 26.—Design for Darning Stitch.

the outside line of sewing the stitch should be a quarter of an inch long, and the space two threads of the goods. On each succeeding line the stitch is almost imperceptibly shortened. The spaces of one line should be opposite the stitches of the next. The thread is fastened the same as in plain running.

The pattern for this design is easily made in tin, wood, or cardboard. The diameter from the outer edge should be three and a half inches and the diameter of the centre opening should be an inch and three quarters.

COUCHING.

Articles needed.—No. 7 Embroidery needle, No. 8 Plain sewing needle, No. 5 Rope silk, brown, Wash silk, gold color. White crash, 7 x 7 inches.

THE embroidery needle is used for the rope silk, which should be knotted. Take a piece long enough to make the outline of the clover. At the point where the stem joins the flower, draw the silk through, leaving the knot on the wrong side, and take off the needle. Couch with the wash silk and plain needle. Knot the silk and work from right to left. Lay the rope silk on the outline of the clover, take a stitch a little less than a quarter of an inch long, beginning below the rope silk, and bringing the needle out above it. Going across the rope silk at right angles, take another stitch in the same way as the first. In this way the rope silk is held down, and the contrasting color coming at regular intervals makes a very pretty effect. The loop should be drawn tight, and the distances should be perfectly regular. The manner of taking the stitch is similar to hemming, or whipping. When finished, fasten by drawing the rope silk through with the embroidery needle, and

leaving a short end. This is overhanded down with the wash silk under the line of the pattern, thus fastening both silks at once.

After the outline is made the cross bars may be worked. First take all those running in one direction, then the others. The cross lines should be

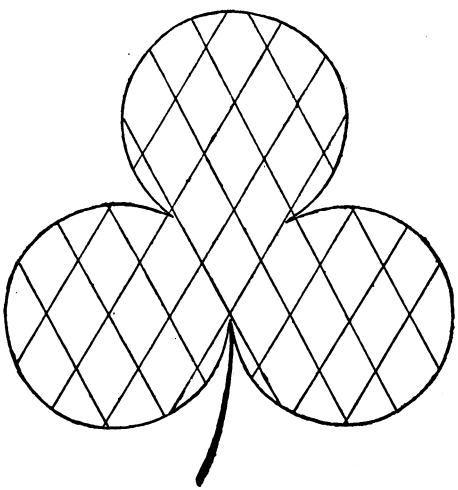


Fig. 27.—Design for Couching.

couched at the point of intersection with each other, and once midway between these points.

The pattern for this should have a diameter of four inches at its widest part.

The cross lines may be made with a rule, with half inch spaces between. A stem should also be added.

KENSINGTON STITCH.

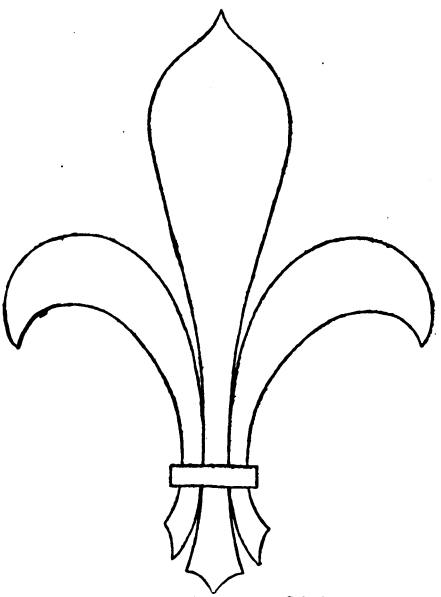
(SOMETIMES CALLED LONG AND SHORT.)

Articles needed.—No. 8 Plain sewing needle, No. 7 Embroidery needle, Filo Selle, violet, Japanese gold thread, No. 18, Sewing silk, gold color, White crash, 8 x 6 inches, Small embroidery frame.

THIS work is done on a frame. The inner hoop of the frame should be wound with some soft muslin. This prevents it from marking the work, and also holds it firmer. Lay the work on the small hoop, and draw the large hoop over, thus holding the crash between the two. The pattern is worked with a double strand of violet silk, and the plain sewing needle. Afterward it is outlined with the gold thread.

Begin at the bottom of the middle petal, just above the cross-bar, and fasten the silk with a few running stitches. Leave a tiny space between the petals where they join, so that there will be room for the gold outline thread. With long and short stitches, fill in the petal, working across it. Keep each line as uneven as possible, for straight lines make a break in the finished work. The stitches should vary in size from an eighth to a quarter of an inch. They should be as close together as possible, without overlapping, so as to present a solid surface of the violet silk. When the middle petal is filled in, work the two outer petals, then the lower parts of the design below the

cross-bar. These are worked from the cross-bar down. After these the cross-bar should be done, working across. The silk is finished by taking a few running stitches. The gilt outline is couched the same as the rope silk on the preceding patch. It is



Design for Kensington Stitch.

knotted and drawn through with the embroidery needle. Couch with gold-colored sewing silk. Finish the same as on the couching patch.

The Fleur de Lis is easily traced from a pattern of tin, wood, or cardboard, the lines for the cross-bar being afterwards added, also the divisions between the

petals. The full length of the middle petal should be six inches, the width of the design at the widest place, should be four and a half inches. If the frame is too large baste a piece of muslin on the crash to enlarge it to fit the frame. This is afterwards ripped off.

DAMASK EMBROIDERY.

Articles needed.—No. 7 Plain sewing needle, No. 5 and No. 3 French working cotton á la Croix, Double damask 5x5 inches stamped with a capital two inches high.

THE letter M has been chosen because it gives straight lines and curves, wide and narrow strokes. First the letter has to be filled in. For filling, No. 3 cotton is used, with a chainstitch for the wide strokes, and the uneven running stitch where the letter narrows down to a single line. On the two downward strokes where the letter widens, three rows of chainstitch are required. These should be as close together as possible. When the letter widens in the curls at the beginning and end, two rows will be sufficient. To diminish to a single line crowd the rows of chain-stitching, leaving but one, which can easily be merged into the running stitch. Starting with the curl at the beginning of the letter, finish the filling before beginning the embroidery. The embroidery is done with No. 5 cotton, and the stitch is simply an over and over stitch, sometimes called satin stitch. The stitches should be as close together as possible without overlapping, and each one should be exactly

at right angles with the outline of the letter where the stitch is taken. To round curves, here as elsewhere, crowd on the inside, spreading a trifle on the outside. When finished, the outline of the letter should be very distinct, and the embroidery firm and solid.

To fasten the thread in beginning and ending take a few running stitches under the pattern.

To finish the patch make a napery hem all around, as narrow as possible. The hem is folded in the

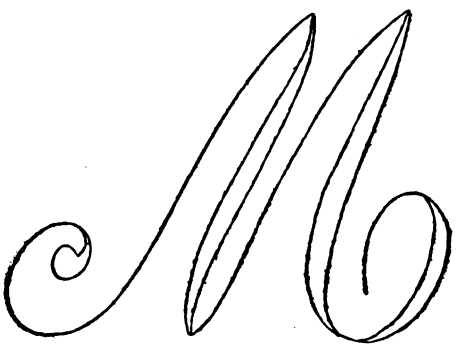


Fig. 29.—Letter for Damask Embroidery.

ordinary way, but overhanded down instead of being hemmed as usual. This is done only with double damask, as but one face of the goods should be taken up, the stitches not being visible on the right side. In catching the edge of the hem, only the threads on the outer surface are caught, and while the hem should be firm and strong, the sewing should scarcely show when it is pressed.

This kind of hem is used for table damask, hence its name.

FLANNEL EMBROIDERY.

(SOMETIMES CALLED LAID WORK.)

Articles needed.—No. 7 Plain sewing needle, Split white zephyr worsted, EE spool embroidery silk, white, White flannel 5 x 5 inches, stamped on two opposite edges with a scallop.

FLANNEL embroidery is filled in like the damask, but wool filling is used instead of cotton. For the wide part of the scallop four rows of chainstitch will be required, which may be reduced to two and one as the scallop narrows at the top. The embroidery buttonhole stitch is used to work the scallops, the knots being along the outer edge. This stitch is the same as was used for the bar of the buttonhole. It is worked from left to right, the silk is brought down with the right hand, and held by the thumb of the left hand. The needle is brought out inside this thread, thus forming a loop. When working up to the point at the top of the scallops, be careful not to work over into the next scallop. The loops are continued to the points. When finished, the scallops should be firm and well shaped. The flannel may be very carefully cut close to the scallops.

Questions and Answers for Sewing Schools.*

THESE answers should be committed to memory by the scholars, and those pertaining to the work of each class recited perfectly before the child is allowed to be promoted. When learned in connection with the work they will be comparitively easy to memorize.

Every scholar should own a copy of these Questions and Answers. They should be committed to memory, and those pertaining to the work of each class recited perfectly before the child is allowed to be promoted. When learned in connection with the work they will be comparatively easy to memorize, besides being a great help to the proper understanding of the sewing. It is necessary to exercise the utmost care to be sure that every child thoroughly comprehends each question, and the meaning of every word.

PREPARATORY CLASS.

1. *How should one be prepared for sewing?* By having clean hands, clean nails, a clean face, hair neatly brushed, and a clean apron.

2. *From what direction should the light come?* If possible, it should come from over the left shoulder, and should never shine directly in the eyes.

3. *Why should the light come from the left?* As the right hand is used for sewing, unless the light comes from the left, the hand casts a shadow over the work.

4. *What is a tape measure?* A piece of tape for measuring, with inches and parts of inches marked on it.

5. *Into what parts is an inch divided on the tape measure?* Into halves, quarters and eighths.

* These "Questions and Answers" are bound separately, for the use of scholars, and may be bought for 3 cts. each or $2.50 per hundred copies. Address the publisher, Thomas Whittaker, 2 and 3 Bible House, New York.

6. *How many inches are there in a yard?* Thirty-six.

7. *How many inches are there in a half yard?* Eighteen.

8. *How many inches are there in a quarter of a yard?* Nine.

9. *Why is the thimble used?* To push the needle through the work.

10. *When should the emery be used?* When the needle becomes rough, so that it does not go through the work easily.

TRACING CLASS.

11. *What is the correct position in sewing?* One should sit straight, and hold up the work.

12. *How long a piece of thread should be used for sewing?* One long enough to reach from shoulder to shoulder,

13. *Why is a knot made in the end of a thread?* To keep the thread from slipping through the work.

14. *When is a knot perfect?* When it is very small and the end of the thread is entirely twisted in.

15. *When a piece of work is finished, should the thread be cut or broken?* It should always be cut with the scissors.

16. *How is the thimble used?* It is worn on the middle finger of the right hand, and the top should be used to push the needle through the work.

STITCHING.

17. *Are there other ways of fastening the thread beside making a knot?* It can be sewed over and held down by another stitch.

18. *What are the different kinds of needles?* Sharps, betweens, and ground-downs.

19. *What is the difference between them?* The sharps are the longest, betweens are next, and ground-downs are the shortest.

20. *Which are the best for ordinary use?* Betweens.

21. *What is the rule for the size of the needles?* A fine needle should be used for fine materials, and a coarse one for heavy things.

22. *What is the rule for the size of the thread?* A fine thread should be used for a small needle, and a coarse thread for a large one.

23. *How are threads and needles numbered?* The higher the number, the finer they are.

OVERHANDING.

24. *What is basting?* Basting is sewing with large stitches to hold the work in place.

25. *What is a seam?* A line of sewing joining two or more pieces of material.

26. *For what is overhanding generally used?* For sewing selvedges together, as on pillow and bolster cases.

27. *In what direction should an overhanded seam be sewed?* It should be sewed from right to left, and in taking the stitch the needle should be put in straight.

FOLDING HEMS.

28. *What are the different kinds of scissors?* The blunt, with neither tip pointed; the medium, with one tip pointed; and those that have both tips pointed.

29. *Which are the best for general use?* The medium, and they should be held with the pointed blade down.

30. *How many times is a hem folded?* A hem is folded twice.

31. *What is the rule for the first fold?* It should be as narrow as possible, no matter how wide the hem is to be.

32. *Is the first fold of a hem important?* It is, because the evenness of the hem depends so much upon the evenness of the first fold.

33. *What is the rule for a very narrow hem?* The second fold should be only wide enough to cover the first.

HEMMING.

34. *What should be used as a guide in folding a hem evenly?* A notched card, or a tape measure.

35. *Should hemming stitches slant?* They should slant a little.

36. *Why are mitered corners cut out?* To make the corner less clumsy.

BACKSTITCHING, OVERCASTING, AND RUNNING.

37. *For what is backstitching used?* To make a seam strong and firm.

38. *Should the basting be above or below the line where the seam is to be sewed?* Just above, and it should be very even that it may be a guide for the sewing.

39. *What is the difference between overcasting and overhanding?* Overhanding is the actual sewing of a seam, while overcasting is only intended to protect the edges of a seam already sewed.

40. *For what is running used?* Mostly for tucking and gathering, as it is not strong enough for a seam.

41. *How should the stitches be taken for tucking?* The stitches and spaces should be of exactly the same length.

42. *How should the stitches be taken for gathering?* On the right side, the spaces should be twice the length of the stitch.

WEAVING—FIRST DIVISION.

43. *How are fabrics woven?* By laying certain threads side by side, and then running in another thread over and under the first ones, from edge to edge and back again.

44. *What are the first threads called?* They are called the warp and always run the length of a piece of goods.

45. *What is the thread called that is woven into the warp?* The woof. It always runs across the goods, and forms the selvedge.

46. *What is the selvedge?* The edge of the goods formed of small loops, made by the woof thread as it is turned to be woven back.

47. *What does selvedge mean?* Self-edge. It is an edge formed in the process of weaving.

48. *What is the machine upon which materials are woven?* The loom.

49. *What carries the woof threads, and weaves them into the warp?* The shuttle.

WEAVING—SECOND DIVISION.

50. *What is it to cut on the bias?* To cut slanting or diagonally.

51. *How may the true bias be found?* By folding over a corner of the material so that the selvedge or the warp threads shall run exactly with the woof threads. The line of the fold will be the bias.

52. *Are there other kinds of bias?* Any slanting line is a bias. The fell bias does not slant so much as the true bias.

53. *Should a piece of goods be cut folded or open?* If it is goods that will retain a crease, unfold it before cutting, otherwise cut it folded.

54. *What are the qualities of the bias?* While it is very strong, it is also elastic and will stretch easily.

55. *For what is the bias used?* It is used mostly for ruffles and bindings.

56. *Which are the stronger, the warp or the woof threads?* The warp threads, because they must bear the strain of having the woof woven in.

57. *Why should materials always be cut through the selvedge and not torn?* It would strain the goods to tear the warp threads at the selvedge, where they are laid closer together for strength.

58. *Are velvets, figured goods, and twills woven the same as plain materials?* The principle is exactly the same, but there are slight changes in the manner of crossing the threads.

59. *How is velvet woven?* By leaving loops of the thread on the right side. These may be afterward cut, as in velvet, or left uncut, as in Brussels carpet. Either cut or uncut they are called the pile.

60. *How are figured goods and twills woven?* Instead of interlacing the threads regularly, as in plain muslin, a certain number of threads are taken up or dropped, at given intervals, thus forming a pattern, or a twill.

61. *Are figures always woven in?* Not always as in calico, where the figure is printed.

62. *Are there any fabrics that are not woven?* Felt is made from a fur or wool pulp, which is pressed. There are also knit goods.

FELLING.

63. *How should a seam of two bias edges be sewed?* It should always be felled, to prevent it from stretching.

64. *Should a fell seam be sewed toward, or from, the wide end?* Always from the wide end, that it may not ravel so badly.

65. *How should a seam be basted for a flat fell?* With one edge a little below the other.

66. *How should a seam be basted for a French fell?* With the edges even.

SEWING ON TAPES.

67. *What are the most important things in sewing on tapes?* To have the work neat and the tapes secure.

68. *When a tape is to be hemmed or joined, how can it be prevented from spreading?* By taking a few running stitches across the end.

GATHERING AND PUTTING ON A BAND.

69. *How should work be prepared for gathering?* By marking the middle and the quarters.

70. *Why is this done?* To help make the fullness even when it is sewed on the band.

71. *How long a thread should be used for gathering, and should it be double or single?* Use a double thread four or five inches longer than the piece to be gathered.

72. *How much should be allowed for fullness in ordinary gathering?* Twice the length of the band.

BUTTONHOLE AND SEWING ON A BUTTON.

73. *What should be the length of a buttonhole?* It should be equal to the width of the button.

74. *How is a buttonhole prepared for working?* By overcasting the edges.

75. *What is wrapping a button?* Winding the thread several times around the stitches between the button and the garment.

76. *Why is this done?* To protect the threads, and make a little space under the button for the button-hole.

GUSSET.

77. *For what is a gusset intended?* To strengthen the end of an opening.

78. *Why is a gusset so strong?* Because the top is a bias fold, which it is almost impossible to tear.

HERRINGBONE.

79. *For what is herringbone generally used?* To sew the hem and to hold down the seams on flannel and other woolen materials.

CHAINSTITCH AND FEATHERSTITCH.

80. *For what are chainstitch and featherstitch used?* To ornament garments.

81. *What is the principal point to be observed?* To have the stitching even and regular.

CUTTING AND BASTING AN APRON.

82. *Which way of the goods should a garment be cut?* The length of the garment should always be with the warp of the goods.

83. *What is the rule for bands?* A band should always be cut with the warp.

84. *When a straight edge is desired, should it be cut or torn?* Whenever possible, it should be torn.

STOCKING DARNING.

85. *What is darning?* The interlacing of stitches to fill in a hole or strengthen a worn place.

86. *What kind of thread should be used for darning?* A thread as nearly like the material as possible.

DARNING ON CASHMERE.

87. *What makes an excellent darning thread?* The warp ravellings, which should be used whenever possible.

PATCHING.

88. *How should the grain or pattern of a patch run?* A patch should always be placed so that it matches the grain or pattern of the garment.

89. *What are some of the ways of sewing on a patch?* It may be darned, hemmed, or overhanded.

90. *How may a patch be held in place for sewing when the edges are not overlapped?* It may be basted on a piece of stiff paper laid underneath the hole.

HEMSTITCHING.

91. *For what is hemstitching used?* To ornament the top of a hem.

92. *What rule should be observed in drawing the threads?* Entirely finish drawing one thread before begining another.

93. *What is the rule for the number of threads to be taken up?* The number of threads taken up for each stitch, should equal the number of threads drawn.

TUCKING.

94. *For what are tucks used?* They are either for ornament or to allow the garment to be lengthened.

95. *What is an excellent rule for the space between tucks?* Make the space half the width of the tucks.

WHIPPING.

96. *For what is whipping used?* To finish the top of a muslin ruffle.

97. *How much should be allowed for fulness on a gathered ruffle?* Once and a half the length of the band.